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REFLECTIONS
ON THE
WORKS OF GOD,
AND OF HIS
PROVIDENCE,
THROUGHOUT
ALL NATURE,
FOR EVERY DAY IN THE YEAR.

TRANSLATED
FIRST FROM THE GERMAN OF MR. C. C. STURM.
BY A LADY.

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WORKS OF GOD,
BY FRANCIS BACON.



CONTENTS.

VOLUME I.

	Page
M editations on new-year's day	1
The blessings granted by God to us in winter	4
Daily proofs of God's providence	6
Several uses of fire	8
Winter amusement	11
The care which Providence takes of animals during winter	14
Pleasures of winter	18
Vegetables	21
Singular state of man when asleep	24
Advantages of the climate we inhabit	27
The fertility which snow gives to the earth	31
Contemplation on the starry heavens	33
Discoveries made by the microscope	39
Advantages of night	42
Reflections on myself	45
Hurt occasioned by extraordinary cold	48
The repose of nature during winter	50
The Laplanders	53
The wise ordinance of our globe	57
Short meditations on the works of God, drawn from the holy scriptures	60
Wonders of the human voice	64
The duty of collecting our thoughts in winter	67

	Page
<i>The fear of spectres</i>	70
<i>Subterraneous fires</i>	72
<i>Comets</i>	73
<i>Snow</i>	78
<i>The rapidity with which human life passes away</i>	81
<i>Frost sometimes seen on glass windows</i>	82
<i>The use of bread</i>	86
<i>Our duty in regard to sleep</i>	88
<i>Revolutions which are constantly in nature</i>	91
<i>Every thing in nature tends to the good of mankind</i>	94
<i>The influence which the cold has upon health</i>	97
<i>A temperature always the same would not be good for the earth</i>	101
<i>The use of stars</i>	105
<i>The wonderful make of the eye</i>	109
<i>On fogs</i>	112
<i>The flux and reflux</i>	114
<i>The sun does not always appear</i>	118
<i>Earthquakes</i>	120
<i>The order established by God in regard to the life and death of man</i>	124
<i>Reflections on ice</i>	128
<i>The spherical form of the earth</i>	131
<i>On the short duration of snow</i>	133
<i>A short history of the earth</i>	136
<i>Bodily advantages the beasts have over us</i>	139
<i>The moon</i>	142
<i>The rain waters the earth and makes it fruitful</i>	145
<i>The images of death which winter affords</i>	148
<i>Means to procure fire</i>	151
<i>The equal distribution of the seasons</i>	153
<i>The utility of our senses</i>	155
<i>Elevation of the soul to God</i>	158
<i>Causes of heat and cold</i>	159

CONTENTS.

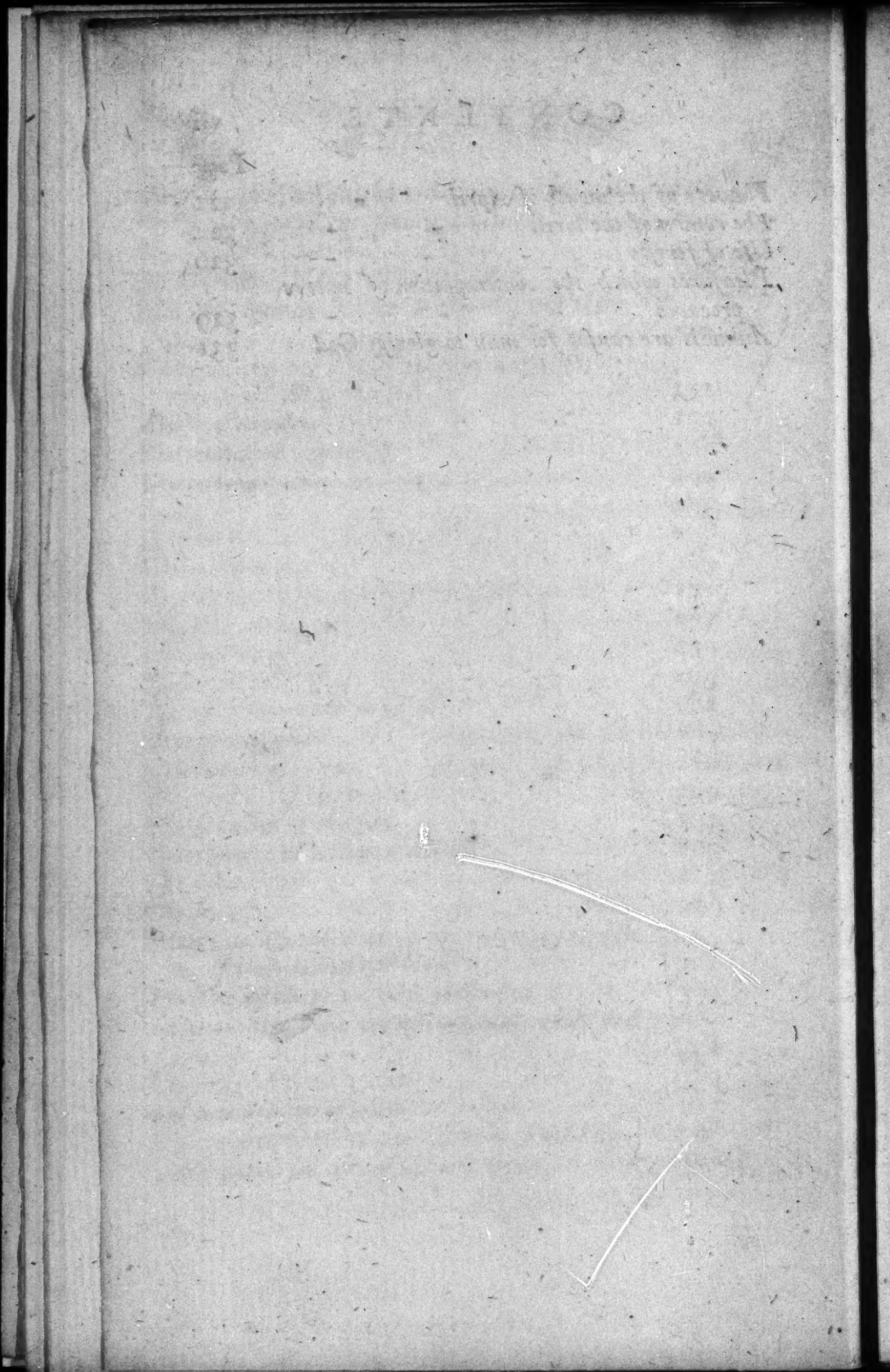
	Page
<i>Singularities in the kindgom of minerals</i>	162
<i>Daily proofs experienced of divine providence</i>	165
<i>Tranquility of the night</i>	167
<i>Winter is the image of our life</i>	169
<i>Use of mountains</i>	172
<i>Motives for confidence in God</i>	175
<i>An invitation to contemplate God in the works of nature</i>	177
<i>Bad weather</i>	180
<i>State of some animals during winter</i>	182
<i>Winds and tempests</i>	184
<i>The aurora borealis</i>	187
<i>The extreme smallness of certain bodies</i>	189
<i>Winter gradually subsides</i>	192
<i>The human body relative to its exterior parts</i>	195
<i>The hope of Spring</i>	197
<i>The white frost</i>	199
<i>Variety of means which contribute to the fertility of nature</i>	201
<i>The advantages the sea procures us</i>	203
<i>The difference between animals and plants</i>	205
<i>The uniformity and variety in the works of na- ture</i>	210
<i>Seeds</i>	213
<i>On the size and distance of the sun</i>	215
<i>The imperfect knowledge we have of nature</i>	217
<i>Use of vegetables</i>	221
<i>The construction of the human heart</i>	224
<i>The change of seasons</i>	226
<i>Several things which appear to be of no use</i>	228
<i>Harmony between the moral and physical world</i>	231
<i>The nature and properties of air</i>	234
<i>There is nothing new under the sun</i>	236
<i>Caves in the mountains</i>	239

	Page
<i>Circulation of the sap in trees</i>	241
<i>Our ignorance of our future state</i>	244
<i>The insensible approaches of night</i>	246
<i>Magnificence of God in his works</i>	248
<i>The arrangement of the seasons in the other planets</i>	250
<i>Paternal cares of Providence for the preservation of our lives in every part of the world</i>	252
<i>Abuse of animals</i>	255
<i>The motion of the earth</i>	258
<i>The immense riches of nature</i>	261
<i>Sun-rise</i>	263
<i>Wonderful construction of the ear</i>	266
<i>The milky way</i>	269
<i>Reflections on the seeds of plants</i>	271
<i>The blue colour of the sky</i>	274
<i>Use and necessity of air</i>	276
<i>Different soils of the earth</i>	279
<i>Necessity for repose at night</i>	282
<i>Size of our globe</i>	284
<i>Generation of birds</i>	286
<i>Prognostics of the weather</i>	289
<i>The situation of the sun</i>	292
<i>Permanency of corporeal beings</i>	293
<i>The use of rain</i>	295
<i>The breath</i>	299
<i>Proofs which the work of the creation furnish us of the goodness of God</i>	301
<i>Pleasing effect of the heat of the sun</i>	304
<i>Relation that all creatures have with one another</i>	306
<i>The integral parts of water</i>	309
<i>The propagation of plants</i>	312
<i>Variety observable in the features of the face</i>	315
<i>God's universal care of his creatures</i>	317

CONTENTS.

vii

	Page
<i>Flowers of the month of April</i> - -	321
<i>The return of the birds</i> - -	324
<i>Use of forests</i> - -	326
<i>Pleasures which the contemplation of nature</i> <i>procures</i> - -	329
<i>Animals are causes for man to glorify God</i>	331



REFLECTIONS, &c.

JANUARY I.

MEDITATIONS ON NEW-YEAR'S DAY.

I REPRESENT to myself this first day of the year as if it was the first day of my life ; and I presume to hope, from the goodness of God, blessings for this year equal to those that have been granted me from my birth till now. What may I not hope from my heavenly Father, who from the first moment of my existence, (what do I say ?) even before I was born, provided for me with so much tenderness and goodness ? In my parents he gave me friends, who, from my very birth, supported, and brought me up, and whose disinterested affection protected me in that weak and helpless state. Without such care, how could I have been preserved to enjoy the many blessings I now possess. If I had at that time been capable of reflection, I might undoubtedly have promised myself many agreeable hours in the course of my existence on earth. Now that I am capable of it, I will give myself up entirely to a sense of my happiness, and the future hopes I am permitted to indulge. I enter with the present day into a new period of life, not so much unprovided for, nor

so helpless, as when I first came into the world, but with equal occasion for assistance in many respects. I require friends to shed sweets upon my life, to support my spirits when oppressed with grief, and to warn me of dangers that I might otherwise fall into. And surely my heavenly Father will grant me this best of blessings. Whatever may happen to me during the course of the year, he has undoubtedly chosen for me a friend, who will be my adviser in difficulties, and my consolers in misfortunes; who will share the sweets of prosperity with me, and in moments of weakness will aid and support my reason. God had laid the foundation of my future lot from the first moment of my life. It is not by chance that I am born of such parents, in such a part of the world, in such a time, and not in another. The time, the place, the circumstances, and the consequences of my birth, had all been planned by God in the wisest manner. It was then that he fixed my fate, that he weighed the evils I was to endure, that he saw the pleasures and comforts which were to restore calm and serenity to my mind. By his decree many causes then unknown were to combine for my happiness, and every thing relating to me was to contribute towards fulfilling his beneficent views. With this first day of the year, my lot is as it were settled over again. The Lord, who gave me being, takes in at one

glance (which nothing can deceive) each week, each day, each instant of this year. All indeed that relates to me is hidden from me, but all things are visible to God, and all are settled according to his decrees, which are full of wisdom and goodness. If in the course of the year I experience any misfortune, which I could not foresee; if any unforeseen happiness falls to my lot; if I have any loss to bear which I could not expect; all will happen according to the will of God. Full of this conviction, I begin the new year. Let what will happen, I shall be more and more confirmed in the persuasion, that God will be my Preserver in my old age, as he was in my youth. If I find myself exposed to poverty and distress, I will remember the days of my infancy, that still more critical state, in which he protected me. If I meet with ingratitude from a friend, even *that* ought not to make me unhappy. God can raise me up other friends, in whose tenderness I may enjoy delight and comfort. If my life is full of dangers and persecution, which seems beyond all human foresight, even this ought not to terrify me. I should put my trust in God who protected my childhood, when it was exposed to a thousand dangers. What then can prevent my beginning this year with a tranquil mind? I look forward without anxiety, and leave my fate to the guidance of Providence.

JANUARY II.

THE BLESSINGS GRANTED TO US BY GOD IN WINTER, AND TO WHICH WE PAY TOO LITTLE ATTENTION.

IF we were to examine the works of God more attentively than we generally do, we should find at this season many reasons to rejoice in his goodness, and to praise the wonders of his wisdom.— Few, without doubt, are so insensible as not to feel emotions of pleasure and gratitude, when beauteous nature displays the rich blessings of God in Spring, Summer, or Autumn. But even hearts, the fullest of sensibility, are rarely excited to the sensation of warm gratitude, when they behold the trees stripped of their fruit, and the fields without verdure; when the bleak wind whistles round their dwelling, when a chilling cold comes to freeze the earth and its inhabitants. But is it certain that this season is so deprived of the blessings of heaven, and of what is sufficient to kindle gratitude and piety in the heart of man? No, certainly. Let us only accustom ourselves to be more attentive to the works of God, more touched with the many proofs of his goodness towards us, and we shall find opportunities enough, even in Winter, to praise our Benefactor. Consider how

JANUARY II.

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unhappy we should be, if, during violent cold, we had neither wood for fire, nor cloaths to keep us warm. With what goodness the Lord prevents our wants, and furnishes us (even in the season the most void of resources) with the necessaries and conveniencies of life. When, at this moment, we may be enjoying the comfortable warmth of a fire, shall we not return thanks to the Lord, who gives us fuel with such profusion, that the very poorest can be supplied with it.

If it was given to mortals to know the chain of every thing in Nature, how great would be our admiration at the wisdom and goodness of its Author! But, however incapable we are of forming to ourselves an idea of the whole of his works, the little we understand of it gives us sufficient reason to acknowledge, that the government of God is infinitely wise and beneficent. Winter belongs to the plan he has formed. If this season did not exist, the Spring and Summer would not have so many charms for us, the fertility of our lands would much diminish, commerce would be at an end in many provinces, and part of the woods and forests would have been created for no purpose. Considered in this light, Winter is certainly very useful, and supposing even that its advantages were not so apparent, it would be sufficient for us to reflect, that Winter is the work of

the Creator, as well as Spring and Summer, and that all which comes from God must be for the best.

JANUARY III.

DAILY PROOFS WHICH GOD GIVES US OF HIS
PROVIDENCE.

NOT to acknowledge the hand of Providence, but in extraordinary cases, is to betray our ignorance and our weakness. In the ordinary course of nature, things offer daily, which ought to excite our attention, and our admiration. The formation of a child in the womb of its mother, is as great a miracle of the power and wisdom of God, as the creation of the first man formed out of the dust. Likewise the preservation of our life, if we reflect on the several causes and effects which combine for that purpose, is no less wonderful than the resurrection of the dead. The only difference between them is, that one happens but seldom, whilst we every day witness the other. This is the reason it does not strike us more sensibly, or raise our admiration as it would otherwise do. Undoubtedly, my own experience ought to convince me fully, that a divine Providence watches over the preservation of my days. I am not cer-

tain of a single moment of my life; a thousand unknown and latent causes may hasten the end of it, chill my blood, or stop my breath. Alas, I feel but too well how incapable I am of preserving my life, or of removing such and such infirmity, such and such danger, with which I am threatened. Subject to so many bodily evils, to so many wants both mental and bodily, I am thoroughly convinced, that, were it not for the tender mercies of God, I should be a very wretched creature. The union of my body and soul, their reciprocal and continual acting on each other are inconceivable, and neither depend on my will or power. The beating of my pulse, the circulation of fluids within me, goes on without interruption, and without my being able to contribute to it in the smallest degree. Every thing convinces me that my faculties, my state, the duration of my existence, does not depend on my will: It is God, who by a secret and absolute power, maintains in me strength, motion, and existence. If my breath is not yet stopped; if my blood still circulates; if my limbs have not yet lost their activity; if the organs of my senses have preserved their play; if in this instant, I have the faculty of thinking, and the use of my reason; it is to God alone that I am indebted for it. But, why do I reflect so seldom, and with so little gratitude on the daily ways of Providence? Ought not the re-

lections which now offer themselves, to have ever been imprinted on my heart? Ought I not, at least, every morning and evening of my life, to meditate on the benefits of my Creator; admire and bless him for them? How just that I should do so, and that, by this homage, I should distinguish myself from the insensible brute; from those creatures who have not received the faculty of contemplating the works of God.

JANUARY IV.

SEVERAL USES OF FIRE.

FIRE is, in some degree, the universal instrument of all the arts, and all the necessities of life. In order that man should make continual use of this element, the Creator has caused it to mix in the air, the water, and all fat and oily substances.

How very useful is all the combustible matter which supplies us with fuel. Without a sufficient provision of it, we should not only lose the greatest advantages, but we should be exposed to the greatest inconvenience.

In Winter, were it not for the fire which lights us, a great part of our time would pass in the most insupportable darkness. Deprived of that artifi-

cial light, our most agreeable amusements would cease at sun-set. We should be obliged to remain motionless, or else to wander in darkness, with horror, in the midst of a thousand dangers. How melancholy our state would be, if in these long evenings, we could neither enjoy the pleasures of society, nor make use of the resources of reading, writing, and working. Consider how unwholesome, and how little nourishment there would be in the greatest part of the food which the earth produces, if by means of fire they were not dissolved, softened, and prepared to a certain degree.

And how should we be able to provide so many other necessities and conveniencies of life, if the workmen and artists did not procure them for us with the help of fire? Without that element, we should not be able to melt metals, to make them malleable, to refine them; to change sand into glass; or to give to lime the consistence of stone.

Without fire, nature and all its treasures would become useless, and would lose in our eyes the most of their charms. But let us limit ourselves to the advantages which we gather from it at this moment. What comfort we find in a room warmed by it, so as to guard us from the impression of the outward air? During hard frosts we should be condemned to do nothing, at least to a thousand disagreeable sensations, if the fire did not

convey to us a certain activity. How many old and sickly people would suffer doubly, were it not for its benign influence? What would become of the weak infant, if its delicate limbs were not strengthened by a gentle heat? Oh! unhappy people, who suffer all the rigour of this cold season, and are ready to sacrifice a portion of the bread which is left you, in order to get fuel to warm your trembling limbs. It is you that I pity from the bottom of my heart. Your situation reminds me of a part of my happiness, to which I have hitherto given but little attention, and imposes on me more strongly the obligation of gratitude for the advantages I draw from the heat of fire. It imposes on me also the duty of giving part of my abundance to relieve others from those evils, which I am myself exempt from. O my God, my Creator and Benefactor, deign to look upon me! See my heart expand in praises and thanksgivings. It is to thy fatherly care that I owe all the advantages, all the pleasures which fire enables me to enjoy.

J. A N U A R Y V.

WINTER AMUSEMENTS.

DURING this season, which many through prejudice consider as not being chearful, every one, according to his taste, seeks amusements to divert himself, and make the long Winter evenings pass away less tediously. Several think of nothing, but making up for the severity of the cold, by seeking dissipation in noisy company and vain pleasures. It is sad to see the efforts so many people make, to shorten, by idleness, or trifling pursuits, days which are already too short. The space of a day is generally filled up by a train of employments, which are unworthy the dignity of man, and the purposes of his soul. Some hours after sun-rise, the luxurious man quits his bed. During breakfast-time he forms projects for the amusements to which he means to sacrifice this new day. Then abandoning himself to idleness, he waits the hour for a second repast: It comes, and he gives himself up without bounds to the pleasures of the table. Satisfied, or rather surfeited, with the immoderate use he made of it, he throws himself on a couch, in order to recover sufficient powers to bear new excesses. The hour comes in which he is to go to a tumultuous company,

unless the noisy circle is to assemble round him. He sits down to play. For the first time since sunrise, he shews then that he has a soul; and, with cards in his hands, the hours appear to him to pass rapidly. At last, this animal of a man, goes from play to the table, and from the table to bed; but he does not find sweet sleep there, Restlessness or frightful dreams disturb his nights. How ingenious is man in multiplying ways to shorten his time with trifling amusements! Sometimes it is hunting which induces him to quit the town; then he pursues the timid hare, or the fearful deer, who, at the last gasp, sinking through weakness, becomes the prey of the hunter, whose inhuman pleasures disturb the repose of the country, and of nature. Sometimes luxury leads him to the ball, where he often loses, with his innocence, his peace of mind, and his health. Sometimes it is the pleasures of public places which enchant him. There, passions glide imperceptibly into his heart. Passions which make him incapable of tasting real pleasures. Sometimes he runs to other entertainments, to other diversions, which too often also draw sins in their train.

Give me leave, now, to remind my fellow-creatures of their duty in regard to these amusements. I do not blame the love of society, which is particularly necessary at this season; but let not this inclination degenerate into a strong passion. Let

it not take possession of your whole soul. Suppose, even in your society, there should pass nothing contrary to virtue and good morals, it may notwithstanding be hurtful to you, if it takes up too much of your time; if it makes you neglect your duties; or, that your domestic affairs are deranged by it. Pleasures are not our daily business. It is for relaxation only that our Creator permits them. Too strong an inclination for them, instead of answering the purpose they were designed for, is seeking enjoyments, which may, in the end, prove sources of regret and remorse. I particularly advise you, to be very attentive to the choice of your sociable pleasures. Do not waste your time in amusements which you cannot enjoy without endangering your virtue, your reputation, or the welfare of your family. Never let those mad pleasures, which may wound your neighbour, give rise to complaints, or cause tears to flow, which may make you neglect the duties of society and religion, ever find access into your heart. Do not let even the most innocent pleasures so far take possession of you, as to make you insensible to the pure and solid pleasures of Christianity, or take away your taste for serious occupations. O God! govern thou thyself my heart, and grant that I may never forget thee in the enjoyment of earthly pleasures. May the remembrance of thy presence guard me against tempta-

tions in the midst of the world! May I ever be more attached to the exercise of my duties as a Christian, as a citizen, a father, &c. than to seeking those pleasures which so easily divert me from my duties; or, at least, lessen my love of goodness! Why should I be so earnest about trifling amusements, whilst, even in these Winter days, I find purer pleasures within my reach. If I find a taste for the contemplation of the works of God in nature, the stormy sky, the fields covered with snow, and a thousand other phenomena of Winter, will serve at once to amuse my mind, and to increase my devotion. For, in Winter also, the works of the Lord are great; and he who will reflect upon them, will enjoy a continual variety of pleasures.

JANUARY VI.

THE CARE WHICH PROVIDENCE TAKES OF ANIMALS
DURING THE WINTER SEASON.

MILLIONS of rational beings, dispersed in the different countries of the world, are provided at this season with all the necessaries of life. The greater the number of men is, the greater variety of wants they have, according to their condition, their age, their manner of living. The less we are able to form a plan, and take secure measures

for our own preservation; and the more the arrangements, so full of wisdom and goodness, made by our Creator to provide for it, deserve our attention and admiration. But there would be a sort of selfishness in confining the divine goodness and wisdom to the preservation of mankind alone, without remembering the care that Providence also takes of animals during winter. A care which he extends to creatures much greater in number on the earth, than the rational beings who inhabit it.

However wonderful the preservation of human creatures may be, we can say with truth, that the cares of Providence towards animals are still more astonishing proofs of the wisdom, power, and goodness of God.

That the prodigious number of animals which our globe contains, should find food or habitation in summer, is not surprising, because all nature then is disposed to concur towards that end. But that in this season, the same number of creatures, those millions of quadrupeds, of reptiles, of birds, of insects, and fishes, should continue to exist, is a circumstance which must excite the astonishment of every one capable of reflection. Nature has provided most animals with a covering, by means of which they can bear the cold, and procure themselves food in winter, as well as in summer. The bodies of wild beasts which inhabit forests

25

and desarts, are so formed, that the hair falls off in summer, and grows again in winter, till it becomes a fur which enables the animal to endure the most severe cold. Other kind of animals find an asylum under the bark of trees, in old crevices, in hollows of rocks and caves, when the cold obliges them to quit their summer dwelling.

It is there, that some carry before-hand the food which is to serve them, and thus live on what they have gathered in the summer; others pass the winter in profound sleep. Nature has given to several sorts of birds an instinct which prompts them to change place at the approach of winter. They are seen flying in great numbers into warmer climates. Several animals who are not designed to travel, find, notwithstanding, their wants supplied in this season. Birds know how to find out insects in moss, and in the crevices of the bark of trees. Several kinds of quadrupeds carry provision in the summer time into caves, and feed on it in winter. Others are obliged to seek their subsistence under the snow and ice. Several sorts of insects, in winter confined to marshes and frozen rivers, are deprived of food for that time, and still preserve life. Perhaps also, many means made use of by Providence for the preservation of animals are yet concealed from us.

Adore, with me, our almighty and gracious Preserver, whose goodness and majesty does not

make him disdain attention to the weakest creature existing under the heavens.

From the elephant to the mite, all animals owe to him their dwelling, their food, and their life; and even where nature herself seems barren of resources, he finds means to make amends for her poverty.

Let this consideration strengthen our confidence in God. How can anxiety, care, or anguish, get access into our hearts, or make us despair of being preserved during the winter? That God who provides for the animals, will not forsake mankind. He who shews himself so great in smaller objects, will be still greater in the more important.

The God who provides a covering for animals will be able to clothe us. The God who points out to them a retreat in the caves of the mountains, will find for us an asylum to pass our days in quietness. The God who has prepared for them, even under the snow and ice, their proper food, will be able to provide for us in the most critical seasons.

In fine, let these reflections lead us to imitate, as much as our faculties will permit, the generous cares of divine Providence, in contributing to the preservation and happiness of our fellow-creatures, and even to the welfare of every living animal.—To be cruel towards animals, to refuse them food, and indispensable conveniencies, is to act

manifestly contrary to the will of our common Creator, whose beneficent cares extend even to those beings which are inferior to us. And, if animals have a real right to our attention, how much more are we obliged to soften, as well as we can, the evils of our fellow-creatures? Let it not be sufficient for us to supply our own wants; but endeavour to supply those of others; and never to let any one sink under misery, that it was in our power to relieve.

JANUARY VII.

THE PLEASURES OF WINTER.

EACH season has its peculiar pleasures and beauties. Winter itself, void as it appears to many of charms or pleasures, answers the Creator's end in that respect. For the sake of those, who through ignorance or prejudice, murmur against this season, I will display the pleasures it affords, both to our senses and to our hearts. Is it not an agreeable sight to behold the morning dawn shining on a country covered with snow? The thick fog, which, like a veil over the earth, concealed every object from us, vanishes all at once. A light frost whitens the tops of the trees. The

little hills and vallies are tinged with the bright reflection of the sun, whose happy influence gives new life to every creature. It seems to invite the linnet to quit the groves, and the sparrow to perch from branch to branch.

In proportion as nature seemed dead in the absence of the sun, so much the more lively she appears, when animated by it, and she delights the eyes of the traveller with her white cloathing. Have you ever happened to remark the form of the snow? Have you reflected on the wonders which a single flake of this substance contains? Admire, on one hand, the regularity, the symmetry of its form, and, on the other, the infinite number of the same flakes which fall from the air. What an agreeable sight, to see the hills, the forest, and the groves, cloathed with a dazzling splendor! What a charm results from the assemblage of all these objects! Behold! (for the eye can scarce have enough of this sight, however accustomed to it,) Behold the brilliant dress of those hedges! Behold the forests bending under the white sheet which covers them! The whole offers to our view the appearance of a vast desert, over which one uniform veil of a dazzling whiteness extends itself. What idea shall I form of those, who, at the sight of these phenomena, do not conceive the pleasing sensations, that the Creator meant to convey to them? They who do

nothing, at this moment, but murmur against the laws of nature, how much are they to be pitied! If the prospect of nature in winter gives them no pleasure, I fear they will be equally insensible to the spring with all its charms. How is it possible not to feel how gracious the Lord is! How adorable his wisdom, and how unbounded his mercy in all that relates to winter! Nature, however barren it appears to us, is, notwithstanding a divine master-piece, and it is our blindness only which conceals its beauties from us. In every part there shines some ray of the divine wisdom, and still more in what is concealed from us. We do not trace her through all her ways, and we are only attentive to what strikes our senses, and flatters our inclination. And, in this respect, many are like the brutes, who see the sun, the snow, and the other phenomena of nature, without looking up to the Lord, as the source from whence all things proceed in heaven, and on earth.

With what satisfaction will every one's mind be filled, who accustoms himself to contemplate with attention, the works of God, at this season of the year. The air may be troubled, the sky become stormy, and nature spoiled of its charms, but they will enjoy true pleasures, in discovering, throughout all things, traces of the wisdom, power, and goodness, of our Creator. However limited their

natural faculties may be, they will always find subjects enough to employ their minds. They will have no occasion to seek with eagerness the dissipations of the world, the amusements of dancing and play. They will find, either in retirement, or in the midst of their friends and children, pleasures ever real, and ever varied.

O my soul! apply thyself to the enjoyment of these pleasures. Let the works of God often employ thy thoughts, and these reflections will soften the sorrows of life. Raise thyself to God by that chain of beings he has created, and let him be at all times and seasons the object of thy praise.

JANUARY VIII.

VEGETABLES WHICH PRESERVE THEIR VERDURE IN WINTER.

THE earth may now be compared to a mother who has been robbed of those children from whom she had the best hopes. She is desolate, and deprived of the charms which varied and embellished her surface. However, she is not robbed of all her children. Here and there, some vegetables are still to be seen, which seem to defy the severity of the winter. Here the wild hawthorn shews

its purple berries; and the laurestina displays its blossom in clusters, crowned with the leaves which never fade. The yew-tree rises like a pyramid, and its leaves preserve their verdure. The weak ivy still creeps along the walls, and clings immovable, whilst the tempest roars about it. The laurel extends its green branches, and has lost none of its summer ornaments. The humble box shews here and there, in the midst of the snow its ever-green branches. These trees, and some others besides, preserve their verdure in the coldest climates, and in the severest seasons. They are emblems of the durable advantages which *he* possesses whose mind is cultivated, and whose temper is sweet and serene. The splendor of dress, which only dazzles the eyes of the vulgar, is a trifling and transient splendor. The most brilliant complexion will fade, and all outward beauty is short of duration; but virtue has charms which survive every thing. The man who fears the Lord, is, “like a tree planted by the side of a rivulet. It grows and flourishes, and its branches extend afar off. It bears fruit in due season, and its leaves fades not. It refreshes him who seeks its shelter, and the traveller blesses it.”

What a delightful image is this of a pious man! He borrows not his value from the exterior and arbitrary goods of fortune. His true ornaments are in himself. The storms of adversity may some-

times shake him, but they cannot overpower him ; and he soon rises again above the stormy regions. If he is reduced by misfortune to poverty, he is still rich in possession of the favour of God, a good conscience, and the hope of a blessed immortality.

This meditation leads me to the idea of a benevolent old man. In the Winter of his life, he resembles the plants which preserve their verdure, even in that season of life. How many storms of fortune he has supported with constancy ! How many attracting objects he has seen wither ? He yet exists, while most of those of his time have disappeared. A mild cheerfulness is seen in him, the happy remains of his Spring. However wrinkled his forehead may be ; whatever ravages the hand of time has imprinted upon his body, he is still adorned with virtues which make amends for the loss of exterior charms. He grows young again in his children ; and his wisdom, his integrity, his great experience, serve still for examples and lessons to all around him.

JANUARY IX.

THE SINGULAR STATE OF MAN WHEN ASLEEP.

IN order to know the omnipotence and wisdom of God, we need not have recourse to extraordinary events. The most common things, the daily changes which happen in nature, and in our own bodies, are alone sufficient to convince us, in the strongest manner, that it is a Being infinite in wisdom, goodness, and power, who has created the world, and who directs every event in it. Of the great number of wonders of which he is Author, I will now mention one only; and, though it happens daily, it does not the less deserve to be remarked, and to become the object of our admiration. How often have those been refreshed and recruited by sleep, who possibly have never reflected on that state; or, at least, have never considered it as one of the remarkable effects of Divine goodness. They think that nothing extraordinary happens when balmy sleep comes upon them. They think the machine their body is formed for that situation, and that their inclination to sleep proceeds from causes purely natural.

But perhaps sleep may be considered in two different lights. On one side there is nothing in it

which may not result necessarily from our nature. On the other, there is in this natural effect something so striking and wonderful, that it is well worth a closer examination. In the first instance it is a proof of the wisdom of our Creator, that we go to sleep imperceptibly. Let us try only to watch the moment in which we are falling asleep, and that very attention will prevent it. We shall not go to sleep till that idea is lost. Sleep comes uncalled. It is the only change in our manner of existence in which reflection has no share; and the more we endeavour to promote it, the less we succeed. Thus, God has directed sleep, that it should become an agreeable necessity to man; and he has made it independent of our will and our reason. Let us pursue this meditation, and reflect on the wonderful state we are in during our sleep. We live without knowing it, without feeling it. The beating of the heart, the circulation of the blood, the digestion, the separation of the juices; in a word, all the animal functions continue and operate in the same order. The activity of the soul appears for a time in some degree suspended, and gradually loses all sensation, all distinct idea. The senses deaden, and interrupt their usual operations. The muscles by degrees move more slowly till all voluntary motion has ceased. First, this change begins by the forehead; then

the muscles of the eye-lids, the neck, the arms, and the feet, lose their activity, to such a degree, that man seems to be metamorphosed into the state of a plant. The situation of the brain becomes such, that it cannot transmit to the soul the same notions as when awake. The soul sees no object, though the optic nerve is not altered; and it would see nothing, even if the eyes were not shut. The ears are open, and yet they do not hear. In a word, the state of a person asleep is wonderful in all respects. Perhaps, there is but one other in the world so remarkable, and this is visibly the image of that state which death reduces us to. Sleep and death are so nearly alike, it is right to observe it. Who, in reality, can think of sleep, without recollecting death also. As imperceptibly as we now fall into the arms of sleep, shall we one day fall into those of death. It is true, that death often gives warning of its approach several hours or days before: But the real moment in which death seizes us, happens suddenly, and when we shall seem to feel the first blow, it will be already our last. The senses, which lose their functions in our sleep, are equally incapable of acting at the approach of death. In the same manner, the ideas are confused, and we forget the objects which surround us. Perhaps, also, that the moment of death may be as agreeable as the moment of falling asleep. The convulsions of

dying people are as little disagreeable a sensation to them, as the snoring is to those that sleep.

Let our devotion often bring this meditation to our minds. Every time we seek repose in bed, let us reflect on all the wonders of balmy sleep, and bless our Preserver, who, even while we sleep, does such great things for us. Great things, indeed: for if he did not guard us with a protecting hand, to how many dangers should we not be exposed in the night? If God did not keep and direct the beating of our hearts, the circulation of our blood, and the motion of the muscles, the first sleep after we were born would have delivered us into the arms of death.

Let us reflect attentively on all these things, and our own hearts will point to us the duties we ought to fulfil towards so great a Benefactor. Then, with joy and gratitude, we shall bless the Lord, who shews himself to be our God in every circumstance through life.

JANUARY X.

THE ADVANTAGES OF THE CLIMATE WE INHABIT.

LET us sensibly feel how happy we are in all respects. For the blessings of our heavenly Father are poured upon us on every side. The prospect of our forests, our meadows, our hills; the

pure and temperate air which surrounds us; the day, the night, the seasons of the year, and the variations which attend them; all prove to us the goodness of God, and the greatness of our felicity. Can we then still be discontented with the lot which is fallen to us, and complain of the œconomy with which God distributes his blessings; murmuring that we have not a perpetual Summer, that the rays of the sun do not constantly shine upon us, and that an equal degree of warmth is not always felt under our zone! What ingratitude, and, at the same time, what ignorance! Indeed, we know not what we wish, nor of what we complain. Is it through carelessness, or pride, that we disown the goodness of God, who has been particularly favourable to our countries? We murmur often at the severity of Winter. We are mad enough to envy the inhabitants of places, where this change of seasons is unknown. But it is precisely the Winter, which makes the climate we live in one of the most healthy in the world. In hot countries, they are more exposed to epidemic disorders, than where the sun reflects less heat; and the people are not so long lived as in our climate. Besides it is observed, that men are less robust, and population not so great, as amongst us. And when the cold is at the highest possible degree with us, we are still much happier than the inhabitants of those countries, where the cold is so

much greater, and lasts so much longer, that our severest Winters would appear to them to have the mildness of Autumn. Let us compare in imagination, our lot with that of the inhabitants of the northern part of our globe. Here some rays of the sun come to brighten our cloudy days, and revive our spirits. There, neither days nor nights are ever enlivened by the light of that beneficent globe. Here, by means of a warm fire, or in bed, we are perfectly secured from the severity of the cold. There, on the contrary, disturbed, attacked by fierce beasts, men dread them more than the cold; and their poor cottages cannot defend them from those different kinds of enemies. With us, the pleasures of society soften the inconveniencies of Winter: But the unhappy mortals near the north pole are almost shut out from the rest of the earth, and live dispersed in clans. We are so happy as to see the succession of the day and night, whilst those unfortunate creatures pass most of their lives in darkness. In fine (and this is the most essential advantage) after four or five stormy disagreeable months, we enter into a season, the charms of which make us amends for all we have suffered. They, on the contrary, only contemplate a dead nature, without ever seeing it revive. An eternal Winter reigns with them. O, let us bless the bountiful hand, which has appointed for us so happy a lot. Far from lamenting our fate,

let us glorify the Lord, who has planned it with so much wisdom and goodness; and, if we, at present, in our houses, or in the society of friends, pass the Winter agreeably, let us think of those unfortunate people, who are deprived of these pleasures, to which custom, and the very enjoyment of them make us insensible.—When we examine nature, such as she appears in our countries, let us say, penetrated with joy and gratitude, “I give thee thanks, O Lord, for having fixed me in a climate, where thy bounty is so magnificently displayed. May my joy, my gratitude, my endeavours to please thee, be proportionable to the blessings with which I am favoured preferably to other people; and, may the fertility and beauty of the country I was born in, excite me to study and reflect upon thy works and thy blessings; and may I one day arrive at that heavenly habitation which our Saviour has prepared for us, and where I shall adore, with all the nations of the world, the miracles of thy goodness.”

J A N U A R Y XI.

THE FERTILITY WHICH SNOW GIVES TO THE
EARTH.

FROM appearances alone, one might say that snow cannot be useful to the earth ; and one would rather believe, that the cold moisture, with which it penetrates the ground, must be hurtful to trees and plants. But the experience of all ages frees us from this prejudice. It informs us that nature could not give a better covering than snow, to secure the corn, the plants, and trees, from the bad effects of cold. Though it appears to us cold in itself, it shelters the earth from freezing winds ; it maintains the warmth necessary for the preservation of seeds, and contributes even to swell them, by the moisture of the saltpetre it contains. Thus, even at this season, God prepares what is necessary for the support of the beings he has formed ; and provides before-hand for our food, and that of an infinite number of animals.

Nature is always active, even when she appears to us to rest, and she is doing us real services, when she seems to refuse it. Let us admire in this the tender care of divine Providence. Behold, in the severest season, the attention to our welfare, and how, (without any labour of ours) nature silently

prepares for us all its treasures. With such striking proofs of beneficent care, who could give way to fears and anxiety? What God does every Winter in nature, he does daily for the preservation of mankind. What appears to us useless or hurtful, contributes in the end to our happiness; and, when we think that God does not interest himself about us, it is then that he is forming plans which are hidden from us, and which, in discovering themselves, work for our deliverance from such and such evils, and obtain for us such and such blessings, as we did not dare to hope for.

In the mean time, God has not only designed that the snow should cover the earth, but that it should also make it fruitful. How much care and trouble it costs us to give the necessary manure to the fields, and how easily it is done by nature! The snow which possesses this virtue, is much more useful than rain and other manures. When it is softened by the sun, or that a temperate air dissolves it by degrees, the saltpetre it contains enters deep into the earth, penetrates and gives life to the shoots of plants.

Who is there that will not remember, on this occasion, the emblem under which God represents to us the wholesome efficacy of his word? "As the rain and the snow descend from heaven, and return there no more, but water the earth, and cause it to grow and flourish; as it gives

“ the seed to the sower, and bread to him who
 “ eats; likewise shall the word of my mouth be.
 “ It shall not return back to me, without effect;
 “ but it shall do all that in which I have taken a
 “ pleasure, and shall prosper in the things for
 “ which I have sent it.” We live at a time, in
 which this prediction is accomplished in a very
 striking manner. Whole provinces, kingdoms,
 even great part of our globe, which was formerly
 buried in the darkest ignorance, superstition, and
 incredulity, are now enlightened by the gospel.
 We feel the happy influence, even in our days, of
 the word of the living God. How many hard-
 ened hearts it has triumphed over! How many
 good works, what pious fruits has it not produced!
 O may the divine grace ever find in our hearts a
 soil well disposed to feel its salutary influence.

JANUARY XII.

CONTEMPLATION OF THE STARRY HEAVENS.

THE sky at night presents us a sight of won-
 ders, which must raise the astonishment of every
 attentive observer of nature. But from whence
 comes it, that so few consider the firmament with
 attention? I am willing to believe, that in gene-

ral it proceeds from ignorance; for it is impossible to be convinced of the greatness of the works of God, without feeling a rapture almost heavenly. O how I wish to make you share this divine pleasure! Raise your thoughts for this purpose towards the sky. It will be enough to name to you the immense bodies which are strewed in that space, to fill you with astonishment at the greatness of the artificer. It is in the centre of our system that the throne of the sun is established.— That body is more than a million of times larger than the earth. It is one hundred millions of miles distant from it, and notwithstanding this prodigious distance, it has a most sensible effect upon our sphere. Round the sun move nineteen globular bodies, seven of which are called planets, the other twelve, moons or satellites, they are opaque, and receive from the sun, light, heat, and perhaps also, their interior motion. Georgium Sidus, Saturn, Jupiter, Mars, the Earth, Venus, and Mercury, are the names of the seven principal planets. Of these seven, Mercury is nearest the sun; and for that reason is mostly invisible to the astronomer. As he is near nineteen times smaller than our earth, he contributes but little to adorn the sky. Venus follows him, and is sometimes called the morning and sometimes the evening star. It is one of the brightest of the heavenly bodies, whether it precedes the sun-rise

or succeeds the setting-sun. It is near as large again as our earth, and is about sixty-eight millions of miles distant from the sun. After Venus comes our earth, round which the moon moves, as a secondary planet. Mars, which is the fourth planet, is seven times smaller than our globe; and its distance from the sun is one hundred and forty-four millions of miles. Jupiter with his belt, is always distinguished by his splendor in the starry sky: It seems in size to surpass all the fixed stars; it is almost as bright as Venus in all her glory, except that the light of it is less brilliant than the morning star. How small our earth is in comparison with Jupiter! There would not be less than eight thousand globes like ours, necessary to form one equal in size to that of Jupiter. Saturn, whose distance from the sun is upwards of nine hundred millions of miles, was thought the remotest planet until the late discovery of the Georgium Sidus, whose distance is eighteen thousand millions of miles, and its magnitude eighty-nine times greater than our earth. In the mean time, the sun, with all the planets which accompany it, is but a very small part of the immense fabric of the universe. Each star, which from hence appears to us no larger than a brilliant set in a ring, is in reality an immense body which equals the sun both in size and splendor. Each star then is not only a world, but also the center of a planetary system.

It is in this light we must consider the stars, which shine over our heads in a Winter night. They are distinguished from the planets by their brilliancy, and because they never change their places in the sky. According to their apparent size, they are divided into six classes, which comprehend altogether about three thousand stars. But though they have endeavoured to fix the exact number of them, it is certain they are innumerable. The very number of stars sown here and there, and which the most piercing eye can with difficulty perceive, prove that it would be in vain to attempt to reckon them. Telescopes indeed have opened to us new points in the creation, since by their assistance millions of stars are discovered.— But it would be a very senseless pride in man to try to fix the limits of the universe by those of his telescope. If we reflect on the distance between the fixed stars and our earth, we shall have new cause to admire the greatness of the creation. Our senses alone make us already know that the stars must be farther from us than the planets. Their apparent littleness only proceeds from their distance from the earth. And in reality, this distance cannot be measured; since a cannon-ball, supposing it always to preserve the same degree of swiftness, would scarce, at the end of six hundred thousand years, reach the star nearest to our earth. What then must the stars be? Their prodigious

distance and their brightness tell us,—they are suns which reflect as far as us, not a borrowed light, but their own light; suns, which the Creator has sowed by millions in the immeasurable space; and each of which is accompanied by several terrestrial globes, which it is designed to illuminate.

In the mean time, all these observations, however surprising they are, lead us, at the utmost, but to the first limits of the creation. If we could transport ourselves above the moon; if we could reach the highest star over our heads, we should discover new skies, new suns, new stars, new systems of worlds, and perhaps still more magnificent. Even there, however, the dominions of our great Creator would not end; and we should find, with the greatest surprise, that we had only arrived at the frontiers of the worldly space. But the little we do know of his works, is sufficient to make us admire the infinite wisdom, power and goodness of our adorable Creator. Let us stop here, then, and reflect, how great must be that Being who has created those immense globes! who has regulated their course, and whose mighty hand directs and supports them! And what is the clod of earth we inhabit, with the magnificent scene it presents us, in comparison of the beauty of the firmament? If this earth was annihilated, its absence would be no more observed than that of a grain of sand from

the sea shore. What are provinces and kingdoms in comparison of those worlds? Nothing but atoms which play in the air, and are seen in the sunbeams. And what am I, when I reckon myself among this infinite number of God's creatures? How am I lost in my own nothingness! But however little I appear in this, how great do I find myself in other respects! "How beautiful this starry firmament, which God has chosen for his throne! What is more admirable than the celestial bodies! Their splendor dazzles me; their beauty enchants me. However, all beautiful as it is, and richly adorned, yet is this sky void of intelligence. It knows not its own beauty; whilst I, mere clay, whom God has moulded with his hands, am endowed with sense and reason." I can contemplate the beauty of those shining orbs: Still more, I am already, to a certain degree, acquainted with their sublime Author; and I partly see some rays of his glory. I will endeavour to be more and more acquainted with his works, and make it my employment, till by a glorious change I rise above the starry regions.

JANUARY XIII.

DISCOVERIES MADE BY MEANS OF THE MICROSCOPE.

NATURE is in small objects what she is in the great ones. There is no less order and harmony in the construction of the mite, than in that of the elephant. The only difference is, that the weakness of our sight prevents us from penetrating into the nature and organization of small bodies, which often escape our eyes, and which we can only perceive by the assistance of glasses. Microscopes have made us acquainted with a new world of vegetables and animals. They teach us, that objects which the naked eye cannot discover, have extent, parts, and form. Let us mention some examples of it, to lead us to praise God, whose glory manifests itself so wonderfully in small objects. Every grain of sand appears round, when we examine it with our eyes only, but by the assistance of a glass, we may observe that every grain is different, both in size and shape. Some are perfectly round, others square, others conical, but mostly irregular. And what is still more astonishing is, that by means of a microscope, which makes objects appear a million of times larger than they are, we may discover, in the grains of sand, a new animal world: For it has been found,

that their cavities contain insects. In cheese, there are little worms called mites, which to the naked eye appear mere dots, whilst, with a microscope, they are proved to be insects of a singular figure. They have not only eyes, mouth, and feet, but a transparent body, furnished with long hair, in the form of prickles.

As for the region of plants, it is found in the mouldy substance which usually sticks to damp bodies. It shews you a thick forest of trees and plants, where the branches, leaves, flowers, and fruit can be clearly distinguished. The flowers have long, white, transparent stalks. Before it opens, the bud is but a little green ball; and it does not become white till it has blown. You would as little expect to find these objects in mouldy substances, as that the meal which covers the wings of the butterfly should be a heap of little feathers, if the microscope had not proved the truth of it. But we have no occasion to carry our researches to remote objects. Let us limit them to what relates to ourselves. Examine, with a microscope, the surface of your skin, and you will find that it resembles the scaly skin of a fish. It has been computed that a grain of sand could cover 250 of these scales, and that one only of these scales covers 500 pores, and consequently, that a space, equal to a grain of sand, contains 125,000 pores.

Thus we see how great our Creator is, even in things which prejudice makes us consider as trifles; what an immense number of creatures he has spread over the earth! Those we see are but the least, and perhaps the meanest of God's works. How many objects in nature are concealed from us! We already know above thirty thousand plants, and of insects several millions of species. But what is that in comparison of the whole? If the bottom of the sea, and of rivers, could be open to our sight; if we could transport ourselves to other planets; how would our astonishment increase, at the immense number of God's creatures. "How wonderfully we experience that he has displayed as much wisdom in the most minute objects as in the greatest. Nature proves herself as complete and regular in her smallest productions, as in those prodigious bodies, whose circumference is calculated by millions. The Creator provides with the same goodness for the wants of the insect, which crawls in the dust, as for those of the whale, which appears like an island in the midst of the waves. Let us imitate in this the example of the Deity. Let the least of creatures feel our benevolence, since our common Author vouchsafes to preserve their existence.

J A N U A R Y XIV.

THE ADVANTAGES OF NIGHT.

WE are, it is true, deprived of some pleasures now that the sun withdraws its light from us so soon, and that the greatest part of our time is passed in darkness. Nevertheless, we have no cause to complain of this arrangement in nature. As the mixture of pleasure and pain, of good and evil, is always wisely ordained; so do we find the same provident goodness of our Creator in this remarkable variation in our climate. And it may be reasonably maintained, that the Winter nights are more advantageous than hurtful to us; or, at least, that their apparent inconveniencies are compensated or softened by a thousand blessings too little acknowledged. Should we be as well convinced as we are of the use of the sun? and would its light excite in us the same sensation of pleasure, if the being deprived of it, did not lead us to feel the advantage of it? Each night may remind us of the mercy of God, who, for the good of mankind, has spread light and beauty over the earth. It may remind us of the misery in which we should languish, if day did not succeed the darkness. And does not even darkness obtain for us a great advantage, by inviting us (from the tranquility and repose which attends it) to enjoy a sweet sleep?

How many workmen, who in the day waste their strength in our service, and whose labour, hard in itself, is also attended with disagreeable sensations? O how they bless the night which suspends their labour, and brings them ease and sleep! In general we are too selfish, in measuring the advantages and inconveniencies of night, merely by the use or hurt we think we draw from it. If long nights are disagreeable to some, to how many others are they a blessing? In certain points the night is favourable to the huntsman and fisherman. Without it the astronomer could not have formed an idea of the distance, the size, the course, and the infinite number of planets and stars; nor could the pilot make use of the Northern star, if it was always day-light. Considered in another way, night still appears to me a benefit to mankind, in lessening our wants, and in putting an end to those which, in the day time, cost us many cares. What expence does not conveniencies and customs require, without which we should scarce think we enjoyed life? How many families, oppressed with want, begin the day with anxiety, and end it in hard labour. Night comes and suspends care and misery. To be happy, nothing but a bed is wanting; and if sleep closes our eyes all our wants are satisfied. Night in some degree equals the beggar with the monarch. Both enjoy a blessing which cannot be purchased. O how gracious that Being

who combines all things for the happiness of mankind! Most things, which are called evils, are only so to those who let themselves be carried away by prejudice and passion: whilst, if they were considered as they ought to be, it would appear, that these apparent evils are real blessings to the world. We may be assured, that several millions of our fellow-creatures, who are in the day time employed in hard work, or fatiguing labour; others, who have groaned all day under the yoke of an enemy to humanity; a number of travellers by sea and land, will bless God at the approach of night, which brings rest with it. And let us also bless him the beginning of each night. We shall undoubtedly do so, if, having the wisdom to employ the day well, we acquire a right to a sweet and sound sleep. The shorter our days now are, the higher we ought to value every hour, and make a prudent use of them. The night approaches, in which it will no longer be in our power to work or act. But that long night will still be to us a blessing, if we enjoy in the grave that peace, that rest, which are the fruits of Christian labours.

J A N U A R Y XV.

REFLECTIONS ON MYSELF.

IT is reasonable to turn one's eyes sometimes from foreign objects to one's self. It has too often happened to me, in the reflections I have made on the things around me, to lose sight of myself; or, at least, I have not always endeavoured to raise in my heart, the gratitude and veneration, which the sight of the starry heavens, and the blessings of the earth ought naturally to produce. I will now reflect on what most intimately concerns me, and convince myself more and more, that, as a man, I am not less the masterpiece of divine power and wisdom, than those prodigious bodies, the greatness of which astonishes the imagination. How admirable is the union of my body and soul, and how incomprehensible is their connection, in acting reciprocally. I daily experience, that, when the rays which light exterior objects strike my eyes, my soul receives the idea of the size, the form, and colour of those objects. I feel, that, when there is raised in the air, a certain undulating motion, my soul receives the idea of a sound. By this means, I have a perception of a thousand changes, which happen around me, and even of the thoughts of other men. I experience every moment, that, as

soon as my soul wishes it, my body transports itself from one place to another; that it exercises its power over my arms, my hands, and my feet: In a word, all my limbs are disposed to obey every act of its will. These facts are incontestible; and yet I cannot explain the manner in which they are effected. In this mutual influence of body and soul, there is a wisdom, a wonderful art, which I cannot fathom: and the whole result of my enquiries into it, is surprise and admiration. If I consider my body separately, I find it also a master-piece of the creative hand. Here, nothing is superfluous, nothing is wanting: Each limb is placed in the manner best adapted, either for the use of the body, or for its ornament. Could I wish for a limb more than those which compose a perfect body? And suppose on the other hand, that even one only was wanting, or that my limbs were transposed, so that the eyes for example, were set in my feet or placed where the ears are, what inconvenience, what deformity it would be! Of course, the exterior form of my body is already disposed with much wisdom. But the interior parts of it are still more admirable. My body was to serve more than one purpose, and to fill different functions. It was first to be the means by which the soul was to be informed, in different ways, of the presence of objects not within itself. The organs of sight, of smell, of hear-

ing, of taste, and of feeling, answer this end ; and each of them is a miracle of divine power and wisdom. But, in order that the body should transmit to the soul different sensations of the exterior objects, it was necessary it should be moveable ; and, for this purpose, how many of its parts concur ? The bones, the joints, the sinews, the muscles, or fleshy parts, susceptible of extension or contraction, give me the power of moving in a thousand ways. In the mean time, as a machine, wonderful as my body is, must suffer a continual waste, by its motions and functions, it was necessary for the subsistence of the machine, that its losses should be repaired ; therefore, other parts, besides those already mentioned, were necessary ; some to receive the nourishment, others to grind it, to separate the juices, to make these juices circulate through the whole body, and to distribute as much of it as each limb requires, &c. All these parts actually exist in my body, and answer perfectly well the end for which they were designed.

I bless thee, O Lord, for having made me so wonderfully : All thy works are admirable ; and my soul takes a pleasure in acknowledging it.

JANUARY XVI.

THE HURT OCCASIONED BY EXTRAORDINARY
COLD.

WHY are we so ready to remark whatever inconvenience the laws of nature may sometimes occasion. Why do we dwell upon it, and murmur, whilst we pass so lightly over the many striking advantages it obtains for us. Men, in this respect, act towards God, as they generally do towards each other. A slight offence, the least harm they receive from their best friend, or their benefactor, often effaces the remembrance of the essential services that have been done them. Their ingratitude and pride lessen the value of the latter, and make them consider the other as considerable injuries. It is particularly at this season, that the remark is necessary. Men are attentive only to the evils which the cold may occasion, without considering the good that even the frost may do to the earth; or, at least, without thinking of it with gratitude. If they discover the least harm; if any part of the great whole should be in a suffering state, they think themselves authorized to murmur against God, without considering, that nature (taken in the whole) draws great advantage from the cold.

Let us now weigh, without partiality, the advantages and the evils which may be attributed to it, and the result of this enquiry will be to convince us how little reason we have to blame the government of a wise and good Providence. It is true, that severe cold has its inconveniencies and troublesome consequences. Sometimes, the water freezes to such a depth, that it is impossible to make use of the springs. The fish die in the ponds. The rivers are covered with flakes of ice, which sometimes overflow and make great ravages. The water-mills are stopped, which soon produces a general want of bread. The wood for firing fails, or, at least, becomes very dear. Vegetables suffer in many ways. The winter seeds freeze, if they are not covered. The trees and plants die. Several animals sink through cold and hunger. The health of man, and even his life, is often exposed to danger from it. These are some of the most striking evils which the severity of the season can occasion? But how many winters do we pass without them? And though even some animals should sink under it, and some plants perish with the cold, what is this in comparison of the advantages we draw from it. Let us be more circumspect in the judgment we form of the ways of God. Knowing so little the connection between the things of this world; not being able to take in the whole extent of the

chain of causes and effects; how should we be capable of judging what is advantageous or hurtful in nature? And would it not be totally unjust and unreasonable, that a partial evil should lead us to blame the whole? Let us confess our ignorance, and strengthen ourselves in the comfortable persuasion, that there is much more good than evil in the world; with more cause for content, than subjects for affliction. And let us be certain that many things which our self-interest makes us consider as hurtful, contribute to the general good. With this manner of thinking, we shall be calm in the midst of all events; and, whatever be our fate, we shall never cease to bless our wise and beneficent Creator.

JANUARY XVII.

THE REPOSE OF NATURE DURING WINTER.

THE winter days are days of rest to nature. In the preceding months, she employed herself in fulfilling the designs of the Creator, by labouring in the service of his creatures. How rich was the spring in blossoms! How many seeds it opened! and what abundance of fruit the summer has ripened for us to gather in autumn! Each month

each day, we receive some presents from nature. Is there a single instant in which she has not pleased our sight, delighted our smell, or indulged our taste; and has she not often satisfied them all at the same time? Like a good mother of a family, she employed herself from the morning to the evening of the year, in procuring for us, her favourites, the necessaries, conveniencies, and sweets of life. Cloathing, food, amusement, all has been drawn from her maternal bosom. It is for us she has caused the grass to grow; that she has loaded the trees with blossoms, with leaves, and with fruit. It is for us she has covered the meadows with corn. For us, the vine bears its invigorating fruit. For us, the creation is adorned with a thousand charms. Tired of so many cares, nature now rests; but it is only to collect new force, to be employed again for the good of the world. However, even this rest, which nature enjoys in winter, is a secret activity, preparing in silence a new creation. Already, the necessary dispositions are making, that the deserted earth may recover, at the end of a few months, the children she has lost. Already, the corn shoots, which is to serve us for food. Already, the fibres of plants insensibly open, which are to adorn our gardens and fields. Here again, O beneficent Creator, I adore thy power and wisdom. The

repose which nature takes, is not less interesting to us, nor less worthy of entering into the plan of thy wise Providence, than the activity she shews in spring and summer. Thou hast combined the several revolutions of the earth: Thou hast formed the most intimate connection between them; and equally divided its rest and labour. It has been thy will that each sun should vary the scenes of nature, in the time and manner most proper for the perfection of the whole. If I have been so senseless as to blame any thing in the government of this world, pardon, O my God, my temerity. I discover, and am more and more convinced, that all the plans of thy providence, however extraordinary they may appear to my weak reason, are full of wisdom and goodness. At present that I see the earth covered with a mantle of snow, which keeps it warm, I will reflect on the good that results from it: Lord, it is thou, who, in granting rest to the earth, enriches man with a thousand blessings. And for me also there will come a day of rest, from all trouble, sorrow, or cares. Thou hast wisely ordained the time I should devote to activity. It is now the spring and summer of my life, which must be employed in the service of our fellow-creatures. The autumn will soon come. Grant that I may then resemble one of those fruitful trees, which pours upon us fruit in abundance.

However, the repose that I can promise to myself here is little else but a preparation for new troubles. In that which awaits me in the grave, and in the bosom of eternity, I shall enjoy an uninterrupted repose: There, the remembrance of the sorrows and afflictions, which I shall have suffered here, will fill my heart with inexpressible joy. In the firm hope of that repose, which is reserved for me, grant that I may apply myself with zeal to the fulfilling the duties to which I am called, and devote my powers to the glory of God, and the good of my fellow-creatures.

JANUARY XVIII.

THE LAPLANDERS.

I BEGIN this meditation with a lively sense of gratitude towards my Creator, and of pity for those of my fellow-creatures to whom Nature has more sparingly distributed her blessings. I fix my eyes now on the Laplanders, and the inhabitants of the lands nearest the Arctic pole: Mortals, whose taste and manner of living, when compared with ours, are not the happiest. Their country is formed of a chain of mountains covered with snow and ice, which does not melt even in summer; and

where the chain is interrupted, is full of bogs and marshes. A deep snow overwhelms the vallies, and covers the little hills. Winter is felt during the greatest part of the year. The nights are long; and the days give but a dim light. The inhabitants seek shelter from the cold in tents.— They fix their fire-place in the middle of them, and surround them with stones. The smoke goes out at a hole, which also serves them for a window.— There they fasten iron chains, to which they hang the cauldrons, in which they dress their food, and melt the ice for drink. The inside of the tent is furnished with furs, which preserve them from the wind; and they lie on skins of animals spread upon the ground. It is in such habitations that they pass their Winter. Six months in the year are to them perpetual night, during which they hear nothing round them but the whistling of the winds, and the howling of the wolves, who are running every where in search of their prey. How could we bear the climate and way of life of those people? How much we should think ourselves to be pitied, if we had nothing before our eyes but an immense extent of ice, and whole desarts covered with snow; the absence of the sun still making the cold more insupportable? and if, instead of a convenient dwelling we had only moveable tents made of skins; and no other resource for our subsistence, but in painful and

dangerous hunting for it? If we were deprived both of the pleasures which the arts produce, and the society of our fellow-creatures, to sweeten life,

Are not these reflections proper to make us observe the many advantages of our climate, so little attended to? Ought it not to animate us to bless divine Providence, for delivering us from such distresses and inconveniencies, and for distinguishing us by a thousand advantages? Yes: Let us ever bless that wise Providence: And when we feel the severity of the season, let us return thanks, that the cold is so moderate where we dwell, and that we have such numerous ways of guarding against it. Let us also bless the Almighty Ruler of the universe, by granting us, in the midst of the desolate image which Winter presents, the delightful prospect of Spring, the very idea of which comforts and enables us to support the present evil.

But is the inhabitant of the northern countries so unhappy as we imagine? It is true that he wanders painfully through rough vallies and unbeaten roads, and that he is exposed to the inclemency of the seasons. But his hardy body is able to bear fatigue. The Laplander is poor, and deprived of all the conveniencies of life; but is he not rich, in knowing no other wants than

those which he can easily satisfy? He is deprived for several months of the light of the sun. But to make the darkness of night supportable, the moon, and the Aurora Borealis come to light his horizon. Even the snow and ice in which he is buried, does not make him unhappy. Education and custom arm him against the severity of his climate. The hardy life he leads enables him to brave the cold: And for the particular wants which are indispensable to him, Nature has made it easy for him to obtain them. She has pointed out to him animals, whose fur saves him from the sharpness of the air. She has given him the Reindeer, which furnishes him, at once, with his tent, his dress, his bed, his food, and his drink; with which he undertakes long journies, and which, in a word, supplies almost all his wants, and the maintenance of it is no expence or trouble to him. If, in the midst of all the misery of their condition, these poor mortals had a more perfect knowledge of God, a knowledge such as revelation gives us; if less savage and insensible, they could draw from friendship those sweets which improve life; if it were possible, I say, to join these precious advantages to the tranquility of mind which forms their character, those supposed unhappy people, whose kind of life frightens our depraved imaginations, would not be so much to be pitied as we think. And if it is true that the idea we

form of happiness depends more in opinion than on reason ; if it is true also that real happiness is not fixed to particular people, or particular climates ; and that, with the necessities of life and peace of mind, one may be happy in every corner of the earth, has not one a right to ask, what the Laplander wants to make him happy ?

JANUARY XIX.

THE WISE ORDINANCE OF OUR GLOBE.

HOWEVER limited the human mind may be ; however incapable it is of searching to the bottom of, or even conceiving the whole of the plan that the Creator executed in forming our globe, we may, notwithstanding, by the use of our senses, and the faculties with which we are endowed, discover sufficient to make us acknowledge and admire the Divine wisdom. To convince us of it, we need only reflect on the form of the earth. It is known to be almost in shape like a ball. And, with what view did the Creator chuse that form ? In order that it should be inhabited, over the whole surface, by living creatures. God would not have accomplished this purpose, if the inhabitants of the earth had not every where found sufficient light and heat ; if water had not been

easily spread in all parts of it; and, if the circulation of wind had met with obstacles any where. The earth could not have any form more proper to prevent these inconveniencies. This round form admits light and heat, (those two things so necessary to life) all over our globe. Without this form, the revolutions of the day and night, the changes in the temperature of the air, cold, heat, moisture, or dryness, could not have taken place. If our earth had been square; if it had been conic, or an hexagon, or any other angular form, what would have been the consequence? A great part, and even the greatest part of this earth, would have been drowned, whilst the rest would have languished with drought: Some of our countries would have been deprived of the wholesome circulation of wind, whilst others would have been torn to pieces with continual storms. When I reflect on the enormous mass which composes our globe, I have new reason to admire the Supreme Wisdom. If the earth was softer or more spongy than it is, men and animals would sink into it. If it was harder, more compact, and less penetrable than it is, it would resist the toil of the labourer, and would be incapable of producing and nourishing that multitude of plants, herbs, roots, and flowers, which now spring out of its bosom. Our globe is formed of regular and distinct strata; some of different stones, others of several metals

and minerals. The numerous advantages which result from them, particularly in favour of mankind, are evident to all the world. Where should we have sweet water, so necessary to life, if it was not purified, and in a manner filtered, by the strata of gravel which are sunk a great depth in the earth? The surface of the globe offers a varied prospect; an admirable mixture of plains and vallies, of little hills and mountains. Who is there that does not see clearly the wise purposes of the Author of nature, in thus diversifying this surface? How much beauty the earth would lose, if it was an even plain! Besides, how favourable is this variety of valley and mountain to the health of living creatures! How much more convenient to lodge so many creatures of different sorts! How much more proper to produce the various species of plants and vegetables! If there were no hills, the earth would be less peopled with men and animals: We should have fewer plants, fewer sim-
ples and trees: We should be totally deprived of metals and minerals: The vapours could not be condensed, and we should have neither springs nor rivers.

Who can help acknowledging, that the whole plan of the earth, its form, its exterior and interior construction, are regulated according to the wisest laws, which all combine towards the pleasure and happiness of living creatures!

Supreme Author of Nature ! thou hast ordered every thing on earth with wisdom ! Wherever I turn my eyes ; whether I examine the surface, whether I penetrate into the interior structure of the globe thou hast appointed me to inhabit, I every where discover marks of profound wisdom and infinite goodness.

 JANUARY . XX.

SHORT MEDITATIONS ON THE WORKS OF GOD,
DRAWN FROM THE HOLY SCRIPTURES.

“**H**EARZEN unto this, stand still, and consider the wondrous works of God*.” “He hath established the world by his wisdom, and hath stretched out the heavens by his discretion ; for he is the former of all things†.”

“And God said, Let there be light, and there was light. And God saw the light that it was good ; and God divided the light from the darkness ; And God called the light Day, and the darkness he called Night‡.” “Thou, even thou, art Lord alone : Thou hast made the heaven, the heaven of heavens, with all their host : the earth, and all things that are therein ; the seas, and all that is therein ; and thou pre-

* Job xxxvii. 14. † Jer. x. 12, 16. ‡ Gen. i. 3, 4, 5.

“ serveſt them all: and the hoſt of heaven wor-
 “ ſhippeth thee*.” “ O Lord my God, thou art
 “ become exceeding glorious: Thou art cloathed
 “ with majeſty and honour. Thou covereſt thy-
 “ ſelf with light as with a garment, and ſpreadeſt
 “ out the heavens like a curtain: Who layeth
 “ the beams of his chambers in the waters: Who
 “ maketh the clouds his chariots: Who walketh
 “ on the wings of the wind. Who maketh his
 “ angels ſpirits, his miniſters a flaming fire. Who
 “ laid the foundations of the earth, that it ſhould
 “ not be removed for ever. Thou coveredſt it
 “ with the deep, as with a garment: The waters
 “ ſtood above the mountains†.” “ He ſtretcheth
 “ out the north over the empty ſpace, and hang-
 “ eth the earth upon nothing. He bindeth up
 “ the waters in his thick cloud, and the cloud is
 “ not rent under them. He divideth the ſea with
 “ his power; and by his underſtanding, he ſmit-
 “ eth through the proud‡.” “ For he maketh
 “ ſmall the drops of water: They pour down rain
 “ according to the vapour thereof; which the
 “ clouds drop, and diſtil upon man abundantly.
 “ Alſo, can any underſtand the ſpreadings of the
 “ clouds, or the noiſe of his tabernacle? Behold
 “ he ſpreadeth his light upon it, and covereth the
 “ bottom of the ſea||.” “ It is from thence, as

* Jer. ix. 6. † Pſal. civ. 1, 7. ‡ Job xxvi. 7, 8, 12,
 || Job xxxvi. 27, &c.

“ from a throne, that he sometimes judgeth the
“ people, and sometimes scattereth abundance on
“ the earth.” “ God thundereth marvellously
“ with his voice; great things doth he, which
“ we cannot comprehend. For he saith to the
“ snow, Be thou on the earth; likewise, to the
“ small rain, and to the great rain of his strength.
“ Out of the south cometh the whirlwind, and
“ cold out of the north. By the breath of God
“ frost is given; and, the breadth of the waters
“ is straitened. Also, by watering, he wearieth
“ the thick cloud: He scattereth his bright cloud;
“ and, it is turned round about by his counsels,
“ that he may do whatsoever he commandeth
“ them upon the face of the earth. He causeth
“ it to come, whether for correction, or an ef-
“ fect of his favour and mercy towards man*.”
“ God is wise in heart, and mighty in strength:
“ Who hath hardened himself against him, and
“ hath prospered? Who removed the mountains,
“ and they know not: who overturneth them in
“ his anger: Who shaketh the earth out of her
“ place, and the pillars thereof tremble: who
“ commandeth the sun, and it riseth not, and
“ sealeth up the stars; who alone spreadeth out
“ the heavens, and treadeth upon the waves of
“ the sea; who maketh Arcturus, Orion, and the
“ Pleiades, and the chambers of the south; who

* Job xxxvii. 5, &c.

" doth great things past finding out; yea, and
 " wonders without number*." " Thou didst
 " cleave the fountain and the flood: Thou driedst
 " up mighty rivers. The day is thine; the night
 " also is thine; thou hast prepared the light and
 " the sun; thou hast set all the borders of the
 " earth; thou hast made Summer and Winter†." " He
 " caused an east wind to blow in the heaven;
 " and, by his power, he brought in the south
 " wind‡." He watereth the hills from his cham-
 " bers. The earth is satisfied with the fruit of
 " his works. He causeth the grass to grow for
 " the cattle, and herb for the service of man,
 " that he may bring forth food out of the earth§." " He
 " giveth to the beast his food, and to the
 " young ravens which cry ||." " The eyes of all
 " wait upon thee, and thou givest them their meat
 " in due season ¶." Thus saith the Lord thy Re-
 " deemer, and he that formed thee from the
 " womb, I am the Lord that maketh all things,
 " that stretcheth forth the heavens alone, that
 " spreadeth abroad the earth by myself **." " For
 " thus saith the Lord that created the heavens,
 " God himself that formed the earth and made
 " it: He hath established it, he created it not in
 " vain, he formed it to be inhabited, I am the

Job ix. 4, &c. † Psal. lxxiv. 15, &c. ‡ Psal. lxxviii. 16.
 § Psal. civ. 13, 14. || Psal. cxlviii. 9. ¶ Psal. cxlvi. 15.
 ** Isaiah xlv. 24.

“ Lord and there is none else*.” “ Remember the
 “ the former things of old, for I am God, and
 “ there is none else; I am God, and there is
 “ none like me †.” “ I form the light, and
 “ create darkness; I the Lord do all these
 “ things ‡.”

* Isaiah xiv. 18. † Isaiah xlv. 9. ‡ Isaiah xlv. 7.

JANUARY XXI.

WONDERS OF THE HUMAN VOICE.

THE human voice is the greatest master-piece of the Creator. Whether we consider its principle, its variations, or its organs, it is impossible to fathom its admirable mechanism. Let us now try to reflect silently upon it. What is it that enables us to utter sounds? That faculty depends on the construction of the windpipe. The little opening which is in it, occasions a sound, when the air we have breathed is expelled with quickness. The windpipe is composed of circular gristles which are held together by an elastic membrane. At the entrance is a little lid, which opens to let the air out from that passage. It opens more or less to modify and multiply the tones of the voice, and it closes when we swallow, in order to keep out the food, which must pass over it, in its way

to the stomach. Experience tells us, that the extent of the human voice is twelve full tones. To produce this variety, then, it was necessary that the windpipe should be divided into twelve equal parts. And, as its two sides, when stretched, are distant from each other the tenth part of an inch, one may calculate from thence, that each tone of the voice may be subdivided into an hundred others; also that a man is able to produce 2400 different tones which may all be distinguished by ear. However, in regard to these properties, though so surprising, we have few advantages over the animals. But the prerogative of man consists in this, That we can compress the air, and modify the voice, so as to pronounce letters and words. The palate, the teeth, and lips, contribute much to this operation.

Let us dwell on the manner in which we utter the five vowels, which have only a simple sound. When we pronounce the letter *a*, the sound is quite different from that of *e*, *i*, *o*, *u*; though it was to be pronounced with the same tone. The reason of this difference is one amongst the number of the impenetrable mysteries of nature. To pronounce the five vowels, the mouth must be more or less opened; and, for this purpose, the human mouth is formed different from that of any animal. Even those birds, who learn to imitate the human voice, can never distinctly pronounce

the several vowels; and this is what makes the imitation so imperfect. As to the pronounciation of consonants, three of our organs contribute to it; particularly the lips, the tongue, and the palate. The nose also has its share. Try to stop it, and certain letters cannot be pronounced but in an unintelligible manner. One thing which proves the organization which enables us to pronounce words particularly wonderful, is, that no human art has ever been able to imitate it by any machine. Song, indeed, has been imitated; but not the articulation of sounds, or the pronounciation of different vowels. In several organs there is a stop called the *human voice*: but it produces no tones except such as resemble the diphthongs *ai* or *ae*. And all the efforts of art cannot arrive at imitating one single word of those which we pronounce so easily.

Let these considerations induce us again to reflect on, and to praise the ineffable wisdom and goodness which God shews in the formation of each part of our bodies! And may these reflections make us sensible of the value of the gift of speech, which so advantageously distinguishes us from every animal. How melancholy would the society of mankind be, and how much would the happiness of it be diminished, if we had not the faculty of communicating our thoughts by conversation; and if we could not pour out our hearts into the bo-

form of a friend! Let us make use of this precious gift, since it is the intention of our Creator: But let it be to glorify the Supreme Being, to edify, to instruct, to comfort our fellow-creatures.

JANUARY XXII.

THE DUTY OF COLLECTING OUR THOUGHTS IN
WINTER.

THOSE who are solicitous to make use of every opportunity to improve their minds, will gladly be reminded of the obligation they are under of employing even their Winter days, so as to become days of comfort to their souls. It is easy to prove, how agreeable as well as advantageous, this duty may be made. How perfect would our piety become, if each change, each new appearance of nature led us to trace it up to God, whose glory is as manifest in Winter as in any other season. When we behold the earth covered with snow, the rivers loaded with ice, the trees stripped of their leaves, all Nature barren and desart, let us reflect on the Creator's views in thus ordaining it. With a little attention, we shall at least discover, that every thing is planned with wisdom, and that all the laws of Providence combine for the general good. If, from the weakness and limits of our

understanding, we can only take in the smallest part of God's designs, it is enough for us to know that the ice, the snow, and all the phenomena of Winter, serve, in the plan of Supreme Wisdom, to make the earth fruitful, and to prepare blessings for its inhabitants. How many objects are there for edifying reflections ! We see the snow dissolve, and the ice melt in a moment ; and, behold how rapidly the days pass away ! Ought not this to remind us of the frailty of our existence here ? We inhabit a warm room, and have all the necessaries of life. Ought not these enjoyments to make us consider our poor fellow-creatures, who have neither food, fire, nor raiment ? The short space between day and night ought naturally to lead us to reflect on the short duration of life, and the importance of redeeming the time, and making use of every hour. We see numbers imprudently exposing themselves on the ice. Does it not remind us of the levity and thoughtlessness of those mortals, who give themselves up to the pleasures of the world ? How many other objects at this season may furnish us subject for reflections of this sort, which must have a good effect upon the mind. If we endeavour, not only to employ the mind, but to mend the heart, all these objects may serve for that purpose : and we shall rejoice in every good thought, pious resolution, or comfortable image they awaken in our souls. Let us imitate the bee ;

follow our inclination, and yet chuse the finest flower. To a well-disposed mind the most barren field is still rich in sweets. We may expect the greatest advantages from thus filling our time. It enables us to conquer sensuality, and to govern our hearts, which are so disposed to go astray. We need not have recourse to turbulent pleasures in order to banish *ennui*. When others seek dissipation in worldly follies, we shall find much nobler and more lasting enjoyments in contemplating the works of God, either in solitude or in a chosen society of virtuous friends. For nothing can inspire a sweeter, purer satisfaction, than the raising one's heart above terrestrial objects, and partaking of that which employs the angels and the elect in heaven. What rapture to find God every where : To discover in the flake of snow, as well as in the flower of the Spring ; in the cold Winter, as well as in the heat of Summer, the goodness and wisdom of the Almighty Creator ! And this rapture, which far surpasses all the pleasures of the world, we shall experience, if we learn the habit of reflecting upon it.

J A N U A R Y XXIII.

THE FEAR OF SPECTRES.

THE long Winter nights are the occasion of terror and uneasiness to a number of people, because they are tormented with the ridiculous apprehension of spectres. This superstitious fear was more pardonable in the time of our ancestors, as they had not such clear ideas of the nature of spirits, and as it was then favoured by religion itself. But there is reason to be surprised, that, in an age so enlightened as ours, such ideas and such fears can exist. It shows how ingenious man is to raise imaginary monsters, and to torment himself. Is it not enough that he should, from time to time, feel real evils, he can also create to himself fancied evils, and become unhappy because he thinks himself so. How is a miser tormented with the fear of robbers! the misanthrope, from his distrust of those about him! the discontented man, from his anxiety for what may happen! Let us learn from hence to know the nature of the human heart, and to feel the necessity of watching over our imaginations. If it deceives us in the night, by presenting to us frightful phantoms, it often in the day time produces illusions, by painting vice to us under attractive forms. Let us be as ready to avoid all temptations to evil, as we are to fly from the

apparition of a spectre; but in the former instance man is bold and rash, and in the latter timid and fearful. From whence comes it, that this chimerical fear takes such a strong possession of some people, who are not in the least affected by much more alarming circumstances? The fear of a single spirit makes us shudder, whilst the certainty of being one day transported into a world of incorporeal beings, makes no impression on our minds. Still more, though we know that every step draws us nearer the presence of the eternal and infinite Spirit, we feel no apprehensions about it. If a dead person was to appear to us at midnight, and declare to us that we should soon join him, the most intrepid man would be filled with fright and terror; he would make serious reflections upon the event, and would wait the issue with anxiety. But why are we so inattentive to the voice of God, which cries aloud, Prepare, O Israel, to meet thy God! How inconsistent to rest in security, when it would be prudent to fear; and to tremble when there is nothing to dread.

J A N U A R Y XXIV.

SUBTERRANEOUS FIRES.

BY digging a little deep into the earth, a greater degree of cold is felt than on the surface: because the latter is heated by the sun. From thence it is, that the inhabitants of hot countries can preserve ice to cool their drink the whole year. But if they dig fifty or sixty feet deep, the heat increases sensibly; and, if it is still a greater depth, it becomes so close, that it stops respiration, and puts out a candle. It is not easy to determine the cause of this heat. Those who admit that there are concealed fires in every place under the earth, approach, perhaps, the nearest to the truth. But how this fire, so closely confined, can burn; what the substance is that feeds it, or how it can be burned without consuming, is what cannot be determined with certainty. There are phenomena on our globe, which prove the existence of subterraneous fires in a very formidable manner. From time to time there are terrible eruptions of fire. The two most remarkable mountains which produce such, are Etna in Sicily, and Vesuvius in the kingdom of Naples. The accounts given of these two volcanos are frightful. Sometimes a black vapour only rises out of them; at other times a

hollow roaring is heard; all at once it is followed by thunder and lightning, attended by an earthquake. Then the vapour clears up, and becomes luminous. Stones fly out with violence, and fall again into the gulph from whence they came. Sometimes these eruptions are so violent, that large pieces of rock are hurled into the air, and turn round as swiftly as a foot-ball. The force of the interior air of these mountains is so prodigious, that, in the last century, pieces of rocks weighing three hundred pounds were thrown into the air, and fell again at the distance of three miles. However, even these eruptions are not the worst; for, at certain times, the vitrified entrails of the earth boil up, and rise till their formidable foaming runs over at the outside, and flows for the space of several miles through the neighbouring fields, where it swallows up every thing in its passage. Then the torrent of fire lasts for several days. One wave rolls over another, till it reaches the sea. And even here its violence is such, that it continues to flow for some time without being extinguished in the waters of the ocean. Who can think without terror of the disasters which such eruptions occasion? Whole farms and villages, with their fertile plantations are swallowed up. The meadows are consumed. The olive trees and vines entirely destroyed. We are told, that in one of the eruptions of *Ætna*, the torrent of burn-

ing lava spread itself over fourteen cities ; and that the roaring within the mountain was heard at twenty miles distance.

But wherefore, these volcanoes, which spread such terror and devastation on the earth ? Why has the Lord created them ? Why, instead of putting bounds to their fury, has he permitted them thus to distress his creatures ?—Who then am I to dare to ask such questions ! Have I a right to demand an account of the plans formed by Supreme wisdom ? The existence of those volcanoes cannot be the work of chance ; and I ought to conclude, that the Creator has wise reasons for ordering such to be. Besides, even in this, I find the beneficent hand which provides for the welfare of mankind. Whatever mischiefs these eruptions occasion, it is nothing in comparison of the advantage they are (on the whole) to our globe. The bosom of the earth being full of fire, it was absolutely necessary that there should be volcanoes, because they are the vents by which the force of the dreadful element is broken and weakened. And though the countries where the subterraneous fires collect in greatest quantities, are subject to earthquakes, they would be still more violent, if these volcanoes did not exist. Italy would not be such a fertile country, if, now and then the fire which the earth contains had not found a vent in those mountains. And after all, who knows if

these frightful phenomena may not produce several other advantages concealed from us, and if the influence of them may not extend over the whole globe? At least, this is enough to convince us, that they contribute to fulfil the designs of our divine Author, so full of wisdom and goodness. And if there still remains things to us obscure and impenetrable, let us put our hands to our mouths, and say, "Lord, thy judgments are right and equitable, and thy ways impossible to discover: But who would not fear thee, O God of Heaven, who doth such terrible things!"

JANUARY XXV.

COMETS.

THIS extraordinary star borrows its name from the vapour with which it is surrounded, and is undoubtedly one of the number of celestial bodies that belong to the system of our world. It moves round the sun, as well as the other planets; but it differs from all of them, by a motion peculiar to itself, by its orbit, and by its form. Seen through a telescope, it appears full of spots and uneven; but the mist which surrounds it often conceals the

figure of it. The size of comets differ frequently. Some are scarce equal to stars of the third and fourth class. Others, on the contrary, are larger than stars of the first magnitude. In the middle of it there appears a very thick nucleus, which sometimes separates, and becomes like the edge of the disk. Its form is not always perfectly round; nor is the light of it always equally strong and brilliant. Its tail, or beams, always opposite to the sun, are of so thin and transparent a substance, that the fixed stars may be seen through them. These beams extend sometimes from the horizon almost to the zenith, which gives to the whole star an appearance of great distinction. The farther the tail is from the comet, the more it enlarges, and its light decreases in proportion as its size increases. Sometimes it separates into several divisions of rays. This is part of the result of some exact observations made by astronomers; but undoubtedly, it is the least important of what should be known, in order to have a perfect knowledge of all that relates to those celestial bodies, many of which are out of the reach of our sight. Is the comet a watery planet, or a burning globe? This is what cannot be determined with any certainty, nor can the following questions be answered in a satisfactory manner.

Is that globe inhabited, which, sometimes near the sun, endures all its burning heat, and, at other

times, going out of the line of the spheres, plunges into total darkness, where it seems as if the rays of the sun could never penetrate? Or else, has the Judge of the Universe designed it for the punishment of his creatures? Its coarse surface, exposed by turns to the most violent extremes of heat and cold, is it the abode of perverse beings reprobated by him? Possibly, these wandering bodies may one day serve to divert the course of the planets; and by that means become the cause of their destruction. Or are they still deserts, void and shapeless, as the earth was before the Creator made it habitable and fertile? And will not the fate of comets be determined till our globe shall be no more? The impossibility of our resolving these questions ought to convince us that the human knowledge is very limited. Men, however, often lose sight of this truth: For, if it was present to their minds, the appearance of a comet would not raise a thousand vain conjectures, which so ill agree with the limits of our understanding. Several consider a comet as the fore-runner of the judgments of heaven. Some read in them the fate of a nation, and the fall of Empires. With others they are presages of war, of the plague, or of inundations; in a word, of the most dreadful calamities. These superstitious people do not know, that a comet is a very natural appearance, the return of which can be exactly calculated; and con-

frequently cannot, in any respect, interrupt the ordinary course of things. They do not consider, that this star, as well as the planets, must have a design of very different importance from that which superstition gives to it. What ! could supreme Wisdom place those prodigious bodies in the sky, merely to announce to a small number of living creatures the fate that awaits them !

May the comet (when overleaping the immense space, which now separates it from our sight, it returns again) may it be to me, not a messenger of misfortune, but the herald of the majesty of God. I will adore the supreme Being who prescribes to it its course ; who conducts it through immeasurable ethereal space ; and orders it sometimes to approach the sun, and sometimes to remove to the farthest limits of the planetary system.

JANUARY XXVI.

SNOW.

PERHAPS on reading the title of this meditation, some may ask if it is worth while examining into the cause of so common a phenomenon of nature. My design, notwithstanding, is to awaken attention to this wonder ; and to shew, that the formation of snow has sufficient charms for a reflecting mind.

Snow consists of watery particles, which are frozen in the air. A frozen piece of water becomes ice. Snow differs from this only, in the water of the ice freezing, when it is of its usual thickness; and the water of the snow, when its particles are still separate, or reduced to vapour. Experiments have been made, which prove that snow is twenty-four times lighter than water; and, that it fills up ten or twelve times more space, at the moment of falling, than the water produced from it when melted; which could not be the case, if the snow was not a water extremely rarified. But snow is not mere water, for the construction of its particles, and the effects it produces, are different from that of water and ice. In this respect, the manner in which the snow forms itself has something very remarkable in it.

When particles of vapour collected together freeze in the atmosphere, the saltpetre dispersed in the air comes and unites with it in the form of a little dart of a hexagon shape. While a great number of such little darts unite together, the particles of water which are amongst them grow hard, and take the form of the saltpetre. This accounts for the flakes with six sides, which are composed of points like little needles, at each side of which, darts, or smaller threads, join themselves, though their form frequently alters, when carried here and there by the wind. How wonderful the form of

these flakes of snow would appear to us, if we were not accustomed to see them every year ; but, because certain wonders occur often, is it a reason for being inattentive to them ? No, far from it ; let us be the more careful to examine into them, and to admire the power of God, who in every season, shews himself so rich, so inexhaustible in means to provide for the conveniencies and pleasures of mortals. Have we a right to complain that Winter does not supply variety of amusements for the senses and the understanding ? Is it not an astonishing spectacle, to see that Nature has formed even the flakes of snow with the most exact symmetry ? To see such a prodigious number of them fall from the sky ? To observe the several forms water can take, under the creating hand of God ? Sometimes it forms itself into hail ; sometimes hardens into ice ; and sometimes changes into snow, and into innumerable flakes of it. All these changes serve at the same time for the use and embellishment of the earth, and even in the smallest phenomena of nature, God shews himself great and worthy our adoration.

J A N U A R Y XXVII.

THE RAPIDITY WITH WHICH THE HUMAN LIFE
PASSES AWAY.

OUR life is short and transitory. This is an incontestible proposition; though, to judge from the conduct of most people, one would not suppose it a received truth. Let us judge by our own experience: Ought not each step we have taken, from our births to this moment, to have convinced us of the frailty of life? Let us consider only with what swiftness the days, the weeks, the months, and the years have passed, or rather flown away. They were over, even before we perceived it. Let us endeavour to recall them to mind, and to follow them in their rapid flight. Is it possible to give an account of the different æras? If there had not been in our lives certain very remarkable moments, which made impression on our minds, we should be still less able to recollect the histories of them. How many years of our infancy, which we can say nothing of, but that they have glided away? How many others have passed in the thoughtlessness of youth; during which, misled by our inclinations, and given up to pleasure, we had neither the wish, nor the time, to look into ourselves? To these years succeeded those of a riper age, more capable of reflection. We then thought

it was time to change our way of life, and to act like reasonable men ; but the business of the world took possession of us to such a degree, that we had no leisure to reflect on our past lives. Our families increased, and our cares and endeavours to provide for them increased in proportion. Insensibly the time draws nigh, in which we arrive at old age ; and perhaps, even then, we shall neither have leisure nor force of mind to recollect the past, to reflect upon the period to which we are come, upon what we have done, or neglected to do ; in a word, to consider the purposes, for which God placed us in this world. In the mean time, what can insure our ever attaining that advanced age ? A thousand accidents break the tender thread of life, before it comes to its full length. The child just born falls, and is reduced to dust. The young man, who gives the highest hopes, is cut down, in the age of bloom and beauty ; a violent illness, an unfortunate accident lays him in the grave. Dangers and accidents multiply with years ; negligence and excess lay the seeds of maladies, and dispose the bodies to catch those that are epidemical. The last age is still more dangerous. In a word, half of those who are born, are carried out of the world, and perish in the short space of their first seventeen years. Behold the concise, but faithful history of life ! O may we employ those days, so short, and so important, in learning how to

number them, and to redeem the time which flies so swiftly away. Even whilst we make these reflections some moments are flown. What a precious treasure of days and hours should we not lay up, if, from the numberless moments we have to dispose of, we often devoted some of them to so useful a purpose. Let us think of it seriously; every instant is a portion of life impossible to recall, but the remembrance of which may be either the source of joy or sorrow. What heavenly enjoyment it is, to be able to look happily on the past, and to say to one's self with truth, "I have lived so many years, during which I have sown a rich seed of good works; I do not wish to begin them again, but I do not regret that they have passed." We should be able to hold this language, if we fulfilled the end for which life was given us: If we devoted the short space of time to the great interests of eternity.

JANUARY XXVIII.

THE FROST SOMETIMES SEEN ON GLASS WINDOWS.

THIS little phenomenon shews us what variety, order, and simplicity there is in the smallest production of nature. We often admire the extraor-

dinary figures which frost upon the glass presents to us; but it seldom happens that this object is attended to as much as it merits, however unimportant it may be in itself. The phenomenon in question has its principle in the fluidity of fire. When it is confined in the warm air of a room, it tries to spread itself on all sides, and to penetrate that part where there is least matter homogeneous to its own. This is the reason it runs through the close texture of glass, which contains neither air nor heat. In going through glass, it leaves at the inside, and near any openings, the particles of air and water to which it was united. It forms itself into a cloud, which thickens in proportion as the fire goes out of it, till there remains too little of it in the room to preserve the fluidity of the thickened particles of water on the glass. They then congeal, and the saltpetre in the air mixing with them, produces the variety of figures with which the glass is covered. The beginning, or the sketches of these figures, is formed by very small threads of ice, which insensibly unite, till the whole glass is covered with a coat of ice. These threads are the origin of all the figures; and the first weaving of these may be distinctly seen. We see at first some lines extremely fine, out of which lines come (nearly in the same manner as we see come out of a quill) some threads, which in their turn bear other branches. When it freezes hard, and

the first coat of ice grows thick, it produces the most beautiful flowers and lines of every sort, sometimes strait, sometimes spiral. There is reason to believe, that this great variety of figures does not proceed entirely from the motion of the air, and the particles of fire, but in some measure from the little imperceptible chinks there are in glass. Whatever is the cause of the phenomenon, it is certain that this sport of nature shews us much art, united with much simplicity.

Perhaps, my readers may think trifling all that can be said on an object which has no other value than to please the sight for a short time; but it seems to me, that minute points of this kind have greatly the advantage of those which often fill up our time. With what frivolous matters, what nothings are we sometimes amused? Would not certain phenomena of nature, which we consider as trifles, be as well worth thinking or speaking of? Such researches are agreeable to a mind desirous of information, however small the object. Let us only lay aside prejudice, and the childish ideas we form to ourselves of the works of nature, and we shall think differently. We shall often find, that master-pieces are to be discovered where ignorance perceives nothing but trifles. For nature shews her wisdom even in her smallest works; and it is that which distinguishes them constantly from the productions of art. In reality, can an

object be too trifling, if it furnishes us with a subject for useful reflection? For my part, I do not disdain to read on frozen glass, a truth which may have great influence upon my happiness. Behold the flowers that the frost has drawn upon that glass! They are varied with art and prettiness, yet a ray of the noon-day sun effaces them. It is thus that fancy often paints every thing to us in the fairest light; but all that it represents to us most seducing, in the possession of worldly goods, are merely fine images, which disappear by the light of reason. The importance of this wise lesson is well worth the trouble of attending to the little phenomenon which produced it.

JANUARY XXIX.

THE USE OF BREAD.

OF all the food which our beneficent Creator distributes to us with such profusion and variety for the support of life, bread is, at the same time the most common and the most wholesome. It is as necessary at the delicate table of a prince, as at that of a labourer; and the sick person is as much refreshed by it as the healthy one. It appears to be particularly designed for the food of man; for the plant which produces it can be made to grow

in every different climate; and it is difficult to find, on the habitable earth, a country where wheat will not ripen, if it is cultivated properly. A very evident proof that we cannot do without bread, is, that it is almost the only food we do not tire of, though we eat it every day. All those costly and dainty dishes, which pride and luxury invent, soon cease to please our palates, if we make too frequent use of them. Whereas, we always eat bread with pleasure; and the old man who has made it his daily food seventy years, will still eat it with pleasure, when he may have lost his relish for all other food. We ought to look up to our Creator each day, as we eat our bread, and praise him for this blessing granted to us. Let us chuse of all food that which we like best. Is there any more natural, more generally wholesome, more strengthening, or nourishing? The smell of the most precious aromatics is not so refreshing. The former, indeed, flies more to the head, and is more heating; but the smell of bread, simple as it is, may serve to convince us, that it contains parts essentially proper to form and repair the nervous fluid. What demonstrates its nutritive quality is, that it dissolves and becomes like paste, as soon as it is moistened with water, consequently easy for the stomach to digest. Let us here reflect on the visible care the Creator has shewn of our health, in appointing us this food.

Our best juices are liable to corrupt: It was therefore necessary to give us nourishment which could resist corruption. Now this quality is in bread. As it is composed of vegetables, and has something acid in it, it is an excellent preservative against putrefaction. Certainly, we should be unworthy the bread that daily feeds us, if we were insensible to it as a blessing from God.

JANUARY XXX.

OUR DUTY IN REGARD TO SLEEP.

A MELANCHOLY remark we have often occasion to make is, that most people lie down to sleep with an inconceivable security. To consider it only as far as it relates to our bodies, the revolution produced by sleep ought to appear to us of great consequence; but, if we consider it in still another light, if we were to form to ourselves, all that might happen to us, while we are enjoying repose, it appears to me, that in consequence, we could not, or ought not, to throw ourselves into the arms of sleep, without having taken proper precautions, and having, in a certain degree, prepared ourselves for it. In reality, it is not surprising, that those, who in their walking hours are so inconsiderate, so negligent of every duty,

should be equally so in that which relates to sleep. Let *us*, however, learn in what manner we may glorify God, and act as becomes the character of a Christian, in this respect. What thanksgivings are due to the Creator for the blessing of sleep! Some may not know the full value of it, as it may never have been denied to their wishes, when they have desired it. But, how soon would sickness, sorrow, fear, or old age, deprive them of the sweets of repose! O! it is then that they would acknowledge, that sleep is the most pressing want of nature; and, at the same time, an inestimable blessing of the Deity. But should they wait till they lose this blessing, to become wise? No: now, while they enjoy the advantages of sleep, and that each night makes them feel its salutary effects, never let them give themselves up to it, without a lively sense of gratitude towards their heavenly Benefactor. Let this gratitude prevent them equally from making an abuse of sleep, or, by a contrary extreme, not making use of it. It is always wrong to prolong, through idleness, the hours designed for repose. Nature in this respect, as in every thing else, is content with a little; and seven or eight hours of quiet uninterrupted sleep, is as much as is necessary. But we are not less blameable, when, through avarice, ambition, or any other motive of that sort, we lose our sleep and necessary rest. In both cases, we act con-

trary to the rules established by God, and contrary to the gratitude we owe him for such a blessing.

Above all things, let us endeavour to go to sleep with a proper turn of mind. What should we do, if we were to know for certainty, that from the arms of sleep, we were to pass into those of death? Should we not employ our last moments in preparing ourselves for this passage, in recollecting our past life, in praying for the remission of our sins? We may then every night consider this case possible. In each Winter's night, that is to say, in the space of twelve or fifteen hours, there dies about fifty thousand people. Who can say whose name is not in the list of those which death will not remove out of this world? Now, I leave it to the decision of every one's heart, what they would have done. If, in the course of this night, God had disposed of them, would they have been prepared to appear before him? O God, to whom all hearts are open, and from whom no secrets are hidden, what can we conceal from thee! We daily feel our weaknesses. Pardon our sins: we beseech thee.

JANUARY XXXI.

REVOLUTIONS WHICH ARE CONSTANTLY IN NATURE.

ALL the vicissitudes of nature are derived from the invariable laws established by the Creator, when he drew the universe out of nothing. For a thousand years there has been seen in the sky, and upon the earth, at certain marked periods, the return of the same variations and the same effects. The sun, moon, and stars, continue constantly the same course once prescribed to them. But who is it that supports, that directs them? Who teaches these bodies the course they ought to take? Who points out to them the time for their revolutions? Who empowers them to move always with the same force? Who prevents them from falling on our globe, or from losing their way in the immense space of the heavens? All these questions lead us to God. It is he who appointed the circles they were to describe; it is he who supports, who guides, and prevents them from confusion. By laws unknown to us, he causes those celestial bodies to move with incredible swiftness, and with a perfect regularity, that nothing can disturb. Nearer to us there are, in the elements, continual revolutions, though they are not visible to common observers. The air is in perpetual motion round

our globe. The water continues its course, in the same manner, without ceasing. The rivers run into the sea; and, from its broad surface, vapours rise, which produce clouds. These fall again upon the earth, in rain, snow, and hail: They penetrate into mountains, and fill the springs; from whence the rivulets become rivers, when they have met, and are thereby augmented in their course. Thus, the water, which had fallen from the clouds, returns back to the sea. The seasons last a limited time, and succeed each other, according to the order once established. Each year the fertile earth produces again its plants, and its harvest. Yet, it is never exhausted; for by means of the continual circulation in all the nutritive parts, whatever the earth yields is restored to it again. The Winter comes at the appointed time, and brings the repose it has occasion for; and when it has fulfilled the designs of the Creator, the spring succeeds; and this restores to the earth the children it has lost. The same circulation takes place in the body of every living creature: The blood flows continually thro' its several channels, distributes to each limb the nourishing juices it requires, and then returns to the heart from whence it came. All these revolutions lead us to reflect on the supreme Being, who laid the foundation of them at the creation of the world; and who, by

His power and wisdom, has continued to direct them to this very moment. These are reflections worthy to fill our time, and which are particularly proper at the end of this month. Under the wise direction of Providence, all the revolutions which take place in the course of the month are produced in the manner best calculated for the designs of the Creator. Each day the sun has cheered us ; and after having fulfilled its design, it has given place to the night. Each day the goodness of God is renewed towards us, in having made all the changes and revolutions contribute to our welfare. And now, this month, with all its days, its hours, and its moments, is for ever passed away. It is impossible that the very same month should return to us, were we to live fifty Winters more. However, all the wheels of the great machine, the system of the universe, will at last stop ; the circular motion of the globes will cease ; the springs of nature will be broken ; and the days, the months, and the years, will be swallowed up in the abyss of eternity. Thou, O eternal, unchangeable, and infinite Being, thou shalt still exist ; and through thee, we also may obtain life everlasting.

F E B R U A R Y I.

EVERY THING IN NATURE TENDS TO THE GOOD OF
MANKIND.

WE cannot be too sensible of the love and preference, with which we are honoured by God's distinguishing us so advantageously from other creatures. Let us feel, as we ought, the great happiness of being particularly the objects of his beneficent liberality; of being, in some measure the centre of all he has produced for the manifestation of his glorious attributes. It is for us that all nature acts and labours in the earth, in the air, and in the waters. For us the horse's hoof is furnished with that horn, which it would have no occasion for, were it not to draw burdens, and to climb the mountains. For us the silk worm spins its web so artfully contrived. For us the gnat lays its eggs in the water, for food to the lobsters and fish, which serve for our subsistence. For us the bee gathers, from the leaves of flowers, that exquisite honey destined for our use. For us the ox is put to the plough, and desires no other reward than a little food. It is also for us that the forests, the fields, and the gardens, abound in riches; the greatest part of which would be lost, if they were not of use to

us. For us also are designed the treasures the mountains contain. It is true, that we have beyond comparifon more wants than the brute creation but we have alfo many more faculties, talents, and induftry, to make every thing around us ferve for our ufe and pleafure. Millions of creatures contribute towards our food, cloaths, and habitations ; and furnifh us with innumerable conveniencies and enjoyments. If God has created us with fo many wants, it is precifely to procure us a greater variety of agreeable fenfations. It would be impoffible for us to fatisfy thofe multiplied wants, if animals had as many as us ; and it is in order that we fhould have plenty of every thing, that the things they require are generally fuch as mankind can make no ufe of. But it is not our food only, that God hath provided with fo much goodnefs : He has designed to procure us a thoufand other enjoyments. It is for us that the lark and the nightingale fings ; that the flowers perfume the air ; that the fields and the gardens are adorned with fo many different colours. Above all, he has given us *reafon* to enable us to make every thing contribute to our fupport and pleafure ; to rule over animals ; to fubdue the whale and the lion ; and what is ftill more precious in another way, to take pleafure in his works ; to contemplate the beauty, the greatnefs, and magnificence of them ; to admire

their order and harmony. O man ! thou art so endowed, and so loaded with favours, how canst thou ever be grateful enough to thy heavenly Benefactor? What love can be perfect enough, to answer in any degree, to that which God has shewn unto us ! To encrease more and more our love and gratitude, let us frequently reflect on the unlimited liberality of the Father of Nature ; on the preference with which he honours us, and on the innumerable blessings we receive from him every hour. Let us often reflect that there are no creatures upon earth, so favoured as we are. Let us look around us, and contemplate all nature. Let us ask the sky, the earth, and the sea, all the animals and plants, in a word, every being that exists, and they will tell us, that we are the happy beings to whom all others are subservient, and to whom the whole creation tends. Then, let our souls be penetrated with the most lively gratitude, and the most ardent love, towards our magnificent Benefactor. And let it be our first care, our only ambition, to live for him alone, who has given life and being, on our account, to so many different creatures. These are the resolutions we ought to form in the beginning of this month. Every day we shall have fresh occasion to acknowledge and praise the paternal care of Providence. Let us taste and enjoy the Divine goodness in each meal provided for us ; in each glass of water that serves

to quench our thirst, and to refresh us. But above all, let us acknowledge the mercies of God, in the blessings he reserves for us hereafter. It is for us that Christ designs that ineffable happiness, which his faithful disciples will enjoy about his throne. The blessed spirits will be our companions and friends; and we shall partake with them of those joys, which infinitely surpass all others. What indeed are the blessings of this life, in comparison of the glory which awaits us in heaven? It is true, that even here, we continually experience the effects of his benevolence, and are surrounded with the wonders of his goodness.—But in this world, all pleasures are mixed with pain, and perfect happiness can only be found in heaven.

FEBRUARY II.

THE INFLUENCE WHICH THE COLD HAS UPON
HEALTH.

IN these severe Winter months it is very usual to hear great praises given to the other seasons of the year. The Spring, the Summer, and Autumn, the value of which is so little felt while they are possessed, are extravagantly cried up, now that

the advantages of them can no longer be enjoyed. It is thus that men are disposed. The blessings they possess they do not value as they ought, and they do not begin to know their worth till they are deprived of them. But is it in fact true, that those three seasons only, merit our attention and praise? Is Winter in reality what it is generally represented, an enemy to pleasure, and destructive to health? As this prejudice may very considerably influence our peace and happiness, it would be right to reflect impartially on the advantages which the present season procures for us in respect to health.

Spring and Autumn are very dangerous on account of the sudden changes in the weather. In Summer the air is filled with corrupted vapours, or with such as are at least disposed to be so. It is the time we are most liable to catch colds, which occasion a multitude of painful, and sometimes of fatal disorders. Winter has not these inconveniencies. The cold favours insensible perspiration, and prevents by that means many terrible evils produced by the suppression of it. By means of a gentle moderate perspiration we feel lighter and easier; the blood purifies; the appetite encreases, as well as the cheerfulness and serenity of the mind. The cold also braces the solids, strengthens them, and by that means

supplies the want of exercise. What inconvenience is there not in the great heats of summer? What oppression, what weight one feels when obliged to be long in the open air, and to bear, as one may say, the whole weight of a burning atmosphere? How do we long for the coolness of night to revive us, and restore our strength? The fine Winter days have not these inconveniencies. We have more activity, strength, and courage; are better disposed for labour, or pleasure. Cold gives us spirits, excites us to move quicker, and to take exercise, in order to put us into a gentle heat. Thus, even Winter may contribute to our health and pleasure. The Creator has considered our welfare in this season, as much as in the others; and has formed the wisest plans for the preservation and happiness of his creatures in every month of the year. If we are not equally content, and do not enjoy as good health in Winter as in the other seasons, it is certainly our own fault. Perhaps some pass it in idleness. Perhaps they are always shut up in hot rooms, and never breathe a pure air, nor make use of the fine Winter days. Perhaps they give way to vexation and anxious cares. Perhaps they transgress against sobriety, and are guilty of excess in eating and drinking. Perhaps, in fine, having made a bad use of the summer, they have ruined their health by irregularities, and now feel the bad consequences. How happy

might man be; how constantly good his health, if he followed the laws of nature; and if he allowed labour and rest, business and pleasure, to take their turn regularly!

O my beneficent Creator! I acknowledge with lively gratitude the wise purposes thou proposest to thyself in the ordinance of the world. I bless the fatherly care with which thou providest for our preservation, peace, and welfare, through every change of the year. Can we then be imprudent enough to make a season painful and disagreeable to us, which might become the source of the purest and most innocent pleasures? Shall we, in the levity of our hearts, destroy that health and life which thou wouldst preserve with so much goodness? No, let us rather endeavour constantly to answer thy wise and beneficent views. Content of mind and cheerfulness will then make our days agreeable. Temperance and virtue will best ensure a firm and lasting state of health.

F E B R U A R Y III.

A TEMPERATURE ALWAYS THE SAME WOULD NOT
BE GOOD FOR THE EARTH.

WE imagine that our earth would be a paradise, if every where, or in every climate there was an equal distribution of heat and cold, the same fertility, and the same division of day and night. It is thus we poor short-sighted, selfish mortals think. But suppose things were so ordered, and that in every part of the globe there was the same degree of heat and cold; is it certain that mankind would gain by it, in respect to food, convenience, or pleasure? So far from it, that on the contrary, the earth would be the saddest, and most miserable place to live on, if God had followed the plan we would prescribe to him. By the present plan, there is an infinite variety in the works of the Creator. What dull uniformity it would occasion; what beauty, and how many charms would the earth be deprived of, if the revolutions of seasons, of light and darkness, of heat and cold, were not to take place? Millions of plants and animals (which can only live in countries of a certain degree of heat) could not exist.

Amongst this immense multitude of natural productions, there are very few which can thrive equally in most climates. Most creatures found in these cold countries would be unable to bear the hot climates; whilst, on the other hand, those are peopled with beings who would perish in cold countries. If then there was every where an equal heat, a number of natural productions would not exist. Nature would be deprived of great part of her charms, with her variety; and, many blessings would be thrown away upon us. If every country produced the same things, and had the same advantages, all communication between the different nations would cease; there would be no intercourse nor commerce. Several arts and trades would be unknown. What would become of the sciences also, if the mutual wants of different nations did not put them to the happy necessity of communicating them to each other? Suppose, nevertheless, that there was to be an equal degree of heat over the whole world, could we determine what that degree ought to be? Ought it to be every where as hot as in the torrid zone! Who could bear such a climate? For the colder regions always taking away part of the heat from the hot countries, the heat which must then be spread all over the earth, would be much greater than the torrid zone is at present; men, animals, and plants, would be all consumed, and

would all perish. But, suppose that there was over the whole earth that temperate heat, which would suit all creatures, the air also must every where be of equal height, density, and spring. From whence, it would follow, that our earth would be deprived of one of the principal causes of the winds, the mischief of which is scarce to be expressed. Air, which is so essential to the preservation of life, would become the worst of poisons, if it was not purified by the winds. Equality of heat over the whole earth would soon produce sickness, plagues, contagion: Our fancied paradise would no longer be any thing but a desert and real chaos.

Wise and beneficent Creator, all that thou hast done is right. This confession is the result of every reflection I make, in the contemplation of thy works. I wish to accustom myself to think thus, at the sight of every object of nature; and if it should happen, that I thought I discovered faults, or imperfections, I would always recollect thy infinite wisdom, and the weakness of my understanding. Many things, which at first sight appear useless, and contrary to the order of the world, are arranged with admirable goodness and wisdom. What appears to me defective and imperfect, gives to more enlightened minds just reason to admire and praise the perfection of the

Creator. And, supposing I should not always be sensible of the wisdom and goodness of God, in the Creation and preservation of the world, it ought always to be enough for me to know, that whatever God does is right.

Such is also the judgment I shall hereafter form of the moral Government of God, and his conduct towards intelligent beings. As, in nature, he has distributed, in unequal degrees, heat and cold, light and darkness, so has he made great difference in his dispensations towards rational creatures, and has not regulated their fate all alike. But, in this, as well as in nature, his ways are still ways of wisdom and goodness. In the same manner, as our globe could not subsist, if there was an equal degree of heat and cold every where ; so is it also certain that the happiness of the world would be destroyed, if there was a perfect equality in the lot of mankind. All that God has planned and ordered is wise and merciful.

FEBRUARY IV.

THE USE OF STARS.

THE starry sky is an admirable scene of wonders in the eyes of every one who loves to reflect upon the works of God. The order, the greatness, the multitude, and the brilliant splendor of those heavenly bodies, must be the most pleasing spectacle to an attentive observer of Nature. The sight of the stars alone, supposing that we knew nothing of their nature and use, would be sufficient to fill the mind with admiration and delight. For what can be more magnificent and beautiful than that immense expanse of the heavens, illuminated by numberless lights, which the azure sky makes appear still more brilliant; and which all differ from one another both in size and lustre. But, would a Being infinitely wise have formed so many bodies of an immense size, merely to please our eyes, and to afford us a magnificent sight. Would he have created innumerable suns, merely that the inhabitants of our little globe might have the pleasure of seeing in the sky some luminous specks, the particular nature and purpose of which they very imperfectly know, and which are even but seldom observed? Such an idea cannot be formed by any body who considers, that there is through-

out all nature an admirable harmony between the works of God and the purposes he designs them for; and that, in'all he does, he has in view the advantage, as well as the pleasure of his creatures. It cannot be doubted, but that God, in placing the stars in the sky, has had much higher views than that of affording us an agreeable sight. Indeed, we cannot precisely determine all the particular ends the stars may answer; but, at least, it is easy to believe, that they must be designed for the advantage as well as the ornament of the world; and the following considerations will be sufficient to convince us of it. Amongst the stars that are easiest to distinguish, there are some which we see constantly in the same part of the sky, and are always over our heads. They serve to guide travellers by sea and land, in the darkness of night. They point out the way to the navigator, and tell him when he may undertake his voyages with least danger. Other stars vary their aspect; and, though they always hold the same situation, as to one another, they change the order of their rising and setting, in respect to us from day to day. Even these changes which never vary in their regularity, are of great use to us; they serve to measure time, and to determine it by settled rules. The regular revolutions of the stars mark precisely the return and the end of the seasons. The ploughman knows exactly, by

this means, when he ought to sow seeds in the earth, and the whole progress of the country labours. However considerable the use of the stars is to our earth, it may well be presumed, that it is not the only, nor the most important object which God proposed to himself in producing so many globes of a prodigious size. Can it indeed be supposed, that the wise Creator strewed the immense expanse with so many millions of worlds and suns, merely that the small number which inhabit the earth should be informed of the measure of the time, and the return of the seasons? Undoubtedly these innumerable globes are for more sublime purposes; and each of them has its particular destination. All the stars being so many suns, which can give light, animation, and heat to other globes, is it probable, that God should have given them that faculty for no purpose? Would he have created stars, whose rays can pierce even to the earth, without having produced worlds also to enjoy their benign influence? God, who hath peopled this earth, which is a mere speck, with so many living creatures, would he have placed, in the immense space so many desert globes? No certainly: Perhaps, each of these fixed stars, which we see by miriads, has its worlds moving round it, for which it has been created. Perhaps, these spheres which we see above us, serve as abodes for different sorts of creatures; and are

peopled like our earth, with inhabitants who admire and praise the magnificence of the works of God. Perhaps from all these globes, as well as from ours, there rises continually towards the Creator, prayer and hymns of praise and thanksgiving. It is true that these are only probable conjectures; yet, to every true lover of God, these conjectures must be most agreeable and most delightful. How sublime is this thought, that, exclusive of the small number of rational creatures which inhabit this globe, there are innumerable numbers of them in those worlds which appear from hence to be but mere luminous specks. Beyond this world there is an immensity, in comparison of which our globe, large as it is, must be reckoned as nothing. Souls without number exist there. All of them magnify the name of our great Creator; and all are as happy as their destination admits of; and perhaps aspire to a better world.

FEBRUARY V.

THE WONDERFUL MAKE OF THE EYE.

THE eye infinitely surpasses all the works of the industry of man. Its formation is the most astonishing thing the human understanding has been able to acquire a perfect knowledge of. The most skilful artist could imagine no machine of that kind which would not be much inferior to what we observe in the eye. Whatever sagacity or industry he might have, he could execute nothing which would not have the imperfections necessarily belonging to all the works of man. We cannot, it is true, perceive clearly the whole art of divine wisdom in the formation of this fine organ; but the little we do know is sufficient to convince us of the infinite knowledge, goodness, and power of our Creator. The most essential point is for us, to make use of this knowledge, weak as it is, to magnify the name of the Most High.

In the first place, the disposition of the external parts of the eye is admirable. With what intrenchment, what defence, the Creator has provided our eyes. They are placed in the head at a certain depth, and surrounded with hard and solid bones, that they may not easily be hurt. The eye-brows contribute also very much to the safety

and preservation of this organ. Those hairs which form an arch over the eyes, prevent drops of sweat, dust, or such things, falling from the forehead into them. The eye-lids are another security; and also by closing in our sleep, they prevent the light from disturbing our rest. The eye-lashes still add to the perfection of the eyes. They save us from a too strong light which might offend us; and they guard us from the smallest dust, which might otherwise hurt the sight. The internal make of the eye is still more admirable. The whole eye is composed of coats, of humours, of muscles, and veins. The tunica, or exterior membrane, which is called *cornea*, is transparent, and so hard, that it can resist the roughest touch. Behind that there is another within, which they call *uvea*, and which is circular and coloured. In the middle of it there is an opening, which is called the *pupil*, and which appears black. Behind this opening is the *crystal*, which is very perfectly transparent, of a lenticular figure, and composed of several little flakes very thin, and arranged one over another. Underneath the crystal there is a moist and transparent substance, which they call the *glassy humour*, because it resembles melted glass. The cavity, or the hinder chamber, between the cornea and crystal, contains a moist humour, and liquid as water, for that reason called the *watery humour*. It can recruit itself when it has run out.

from a wound of the cornea. Six muscles, admirably well placed, move the eye on all sides, raise it, lower it, turn it to the right or left, obliquely, or round about, as occasion requires. What is the most admirable is the *retina*, a membrane which lines the inside bottom of the eye. It is nothing but a web of little fibres extremely fine, fastened to a nerve or sinew, which comes from the brain, and is called the *optic nerve*. It is in the retina that the vision is formed, because the objects paint themselves at the bottom of the eye on that tunica: And, though the images of exterior object are painted upside down on the retina, they are still seen in their true position. Now, in order to form an idea of the extreme minuteness of this picture, we need only consider, that the space of half a mile, that is to say, of more than eleven hundred yards, when it is represented in the bottom of the eye, makes but the tenth part of an inch.

I return thee thanks, O Lord God, for having formed my eye in so wonderful a manner. My soul acknowledges thy infinite power, goodness, and wisdom. Hitherto I had not considered my eyes as I should have done, that is, as a masterpiece of thy hands, and as a demonstrative proof, that even the most minute parts of my body are not the work of chance, and that thou hast formed them for most useful purposes. O wise and mighty Creator! pardon me, if hitherto, in mak-

ing use of my eyes I have not thought of thee with the highest gratitude. Dispose me to remember thy blessings with more gratitude. Teach me to use them only for the purposes thou designest them; and never to profane or dishonour these fine organs. Grant that hereafter I may employ them in examining thy works; and that every time I contemplate either the heavens or the earth, or myself, I may be induced to praise and bless thy wonderful goodness.

FEBRUARY VI.

ON FOGS.

AMONGST the many meteors seen in Winter, one of these which is most worthy of attention is the Fog. It is a heap of watery and sulphureous vapours, which fill the lower region of the air, and thicken there. This condensation is principally occasioned by cold; and in order to form fogs, the air must be sensibly colder than the earth, from whence there arises continual exhalations. Besides, that the fogs shed upon the earth a gentle moisture, they afford us a very agreeable sight. All that we behold far or near.

the sky or earth, appears confusedly wrapped up in a grey curtain. All around us, and over our heads, we see nothing but darkness; and the eye wanders every where without being able to distinguish objects. The rising sun labours a long time to pierce through these fogs, and to restore the earth to its former appearance. It succeeds at last in dissipating these vapours. Sometimes they light upon the earth, and sometimes they rise into the middle region of air. By degrees the objects rise out of that obscurity, and appear again in their usual state. The sky resumes all its brightness, all its serenity; and it is only near the ground, or on the roofs of houses, that any traces remain of the fog which had for several hours covered the horizon. At the sight of this meteor, I recollect those unhappy times, when the sciences were in a manner wrapped up in an impenetrable mist of superstition and ignorance. In what thick darkness whole provinces and kingdoms were plunged before the sun of truth could shew itself in all its splendor. The human understanding was so limited and short-sighted, that it scarce comprehended the things which immediately surrounded it; and the power of error was such, that no ray of light could penetrate into those souls, darkened by prejudice and superstition. In fine, the sun appeared again, and suddenly enlightened countries, which during whole ages, had been buried in thick shades. We

learned to distinguish error from truth. A happy futurity, eternity itself was opened to us, and we began to feel the greatness of our lot. Blessed Luther! this is what thou hast done, through the grace and assistance of God. Thy memory will ever be blessed amongst us, and thy remembrance will ever be most dear.

FEBRUARY VII.

THE FLUX AND REFLUX.

THE greatest part of the surface of the earth is covered with water, which is called the sea; and that immense heap is very distinct from lakes and rivers. These contain more or less water, according to the different seasons, whereas, in the sea, the quantity of water is almost always the same; but, we observe the sea increase and decrease, twice every day, according to certain rules. When it comes to a certain height in a port, it soon begins to decrease: This decrease continues for six hours, and the sea is then at the lowest ebb. At the end of six hours it begins again to rise, and this increase lasts also six hours; at the end of which, the sea has again attained its greatest height. Then it sinks again for six

hours, to swell again for the same time ; so that in the space of twenty-four hours, the sea twice rises and falls, and is alternately at the highest and lowest ebb. This regular and alternate motion of the sea, which rises towards the shore, and withdraws again, is called flux and reflux.

When the sea swells and rises towards the coasts, it is called the flux ; and the motion which forces the water towards the main is called the reflux. It is a remarkable circumstance that the tide is regulated according to the course of the moon. The flux is greater and rises higher, towards the time of the new and full moon, and is lower during the quarters. The motion of it is, also, much more considerable in Spring and Autumn than in the other seasons. On the contrary, the tides are much weaker during the solstices. This phenomenon is particularly observable in the ocean, where the water fills a great space ; and is much less so in limited seas, such as the Mediterranean. Finally, the interval between the flux and reflux is not exactly six hours ; It is eleven minutes more, so that these revolutions do not happen the next day, at the same moment, but three quarters of an hour later. They do not return, at the same hour, till the end of thirty days, which is exactly the time from one new moon to another. What may be concluded on with certainty, from this constant and regular phenomenon, is that the flux

and reflux have some connection with the motions of the moon. But, without searching deeper into the cause of this effect, in which there is still much obscurity ; without deciding whether the flux and reflux are owing to the pressure of the moon on the waters, or the gravitation of the particles of the earth towards the moon, let us rather reflect on the views God proposes in these remarkable revolutions. It is always a pardonable ignorance, not to be able to explain perfectly the laws and the course of nature ; but it is an inexcusable want of attention and gratitude, not to reflect on the happy effect those laws, and those great phenomena, have upon our earth, or to forget what we owe to the beneficent Father of Nature. The first advantage we have from the flux, is the sending back the waters into the rivers, and making them deep enough to be able to convey to the very gates of great cities, immense burdens and merchandize, the carriage of which would otherwise be impracticable.

The ships wait sometimes the increase of water, to take advantage of it to get into the road, without touching the bottom, to enter the channel without danger. After this important service, the tides fall, and, leaving the river to return to its shores, they facilitate the enjoyment of commodities to the inhabitants. Another advantage we have from this perpetual waving of the wa-

ters, is to prevent it from stagnating or corrupting by lying still. It is true, that the wind also contributes to it, but, as there is often a perfect calm in the water, there might result from it a putrefaction in the basin of the sea, which is the reservoir for all the waters of the earth to flow into. God has therefore ordered the flux and reflux to prevent hurtful things settling there. The motion of the water rising and falling, attenuates and separates those corrupted vapours; and in order to preserve the sea in its purity, the flux and reflux mixes and disperses the salt, of which it is full, and which would otherwise sink quickly to the bottom.

These reflections may naturally remind us of a circumstance, which is much connected with this phenomenon: Our life is but a flux and reflux. It encreases and decreases: Every thing is inconstant, and liable to change. Nothing is durable. There is no permanent joy, hope, or happiness. We swim in a rapid and inconstant river: Let us then take care not to be drawn into the abyss; and let us endeavour to gain the happy port, the smiling and chearful shores. On the other hand, let us bless God that our evils and anxieties are of short duration. An excessive, and lasting grief or pain, is as little compatible with our nature, as a constant and perfect happiness. These changes are certainly an advantage to us. If we enjoyed,

through the whole course of our lives, an uninterrupted felicity, we might easily grow proud, and forget God. As on the other hand, a continual train of disgraces and misfortunes would sink us entirely, and harden our hearts, Let us then bless our heavenly Father, for his wise decrees; and endeavour to conduct ourselves through life, in prosperity or adversity, in a manner worthy our faith, and the hope of everlasting life.

FEBRUARY VIII.

THE SUN DOES NOT ALWAYS APPEAR.

CLOUDS of rain and snow do not always cover the sky. The clouds sometimes disperse, after having spread over the earth the great provision of water they had collected. Then, the most agreeable serenity appears in the sky. The sight of the sun, which dark clouds had deprived us of for some days, revives every creature, and fills them with joy and animation. During summer, we are accustomed to the presence of this beautiful light; as it seldom appears in winter, and then only for a few hours, we learn to value it the more. Is not this a remark we may make, in regard to every other gift of God? Is it not true

that we are but little sensible of the blessings of this life, and that we look on them often with indifference, when in our possession? Health, repose, friendship, an easy income, and a thousand other blessings, which we daily enjoy, do not appear to us as great as they really are; and we often continue insensible of their value till we have lost them. We must be on a sick bed, deserted by our friends, in want and poverty, before we fully feel the happiness of enjoying good health, of having a faithful friend, and the means of subsisting comfortably.

When the sun brightens up, after having long been darkened with clouds, the earth still looks dismal. It is true that it is a little improved by its rays, but it is not sufficient to restore it to all its beauty. The sun has not yet sufficient power to conquer the cold, which has hardened the earth, nor to revive nature, which appears dead. It is like the light of the mind, which does not always warm the heart. Those who languish in misery and affliction feel this. It happens sometimes, that, in the winter of life, or in other sad and unhappy circumstances, we see joy and pleasure at a distance, without being able to taste the sweets of them. We owe, however, thanksgivings to our heavenly Benefactor, for those gleams of joy, which now and then refresh our souls, and soften our cares and sorrows, were it but for a

a few moments. How uncertain is the serenity of the sky in Winter ! How little can we depend on the beneficent rays of the sun ! It appears now with mild majesty, but it will soon be covered with clouds ; and, before noon, the splendor and beauty with which it enlivened the earth this morn, will all disappear. Such is also the uncertainty of every scene through life. We can never promise ourselves lasting or uninterrupted happiness. It ought to make us wise and prudent in the days of prosperity, and moderate our love of earthly enjoyments. Every thing is liable to change. Virtue alone is unchangeable. That only can enable us to support the vicissitudes and distresses of this world, and give us fortitude to bear adversity or prosperity, till it leads us to those blest regions, where we shall be perfectly happy without a shadow of variation or change.

FEBRUARY IX.

EARTHQUAKES.

OUR earth suffers two kinds of shocks ; one is occasioned by the action of subterraneous fires, and by the explosion of volcanos. These commotions are only felt at small distances, and only when the volcanos work before the entire erup-

tion. As soon as the matter which forms the subterraneous fires comes to ferment and blaze, the fire makes an effort on all sides; and if it does not naturally find a vent, it raises the earth and makes itself a passage, by throwing it up with violence. But those sort of earthquakes only extend for the space of a few miles. They shake the earth like the explosion of a magazine of powder, which produces a shock, and a sensible commotion at several leagues distance. But there is another sort of earthquake, very different in the effect, and perhaps in the cause also. I mean those terrible earthquakes, which are felt at great distances; and which shake a long track of ground, without any new volcano, or any eruption appearing. There are instances of earthquakes, which have been felt at the same time in England, France, and Germany. Those extend much more in length than in breadth. They shake a chain or zone of land, with more or less violence in different parts, and they are generally attended with a hollow noise like a heavy carriage going very rapidly. The following observations may explain the causes of this sort of earthquake: All inflammable matter capable of explosion, produces, (as powder does,) a great quantity of air. The air produced by fire, is so very much rarified, that it must cause very violent effects, when it

has long been shut up and compressed in the bowels of the earth. Suppose then, that at a very considerable depth, such as an hundred or two fathom deep, there should be sulphureous matter which should take fire by means of the air, it must of course seek a vent: and if it finds none, it occasions the most violent shocks. It is impossible to express how fatally dreadful these sort of earthquakes are. Of all the desolations, of all the catastrophes upon earth, there are none so formidable, so destructive; and which so much baffle all human foresight and prudence, as these earthquakes. When rivers overflow their banks, swallow up provinces, and sweep away whole villages, there is still some resource; it is possible to escape upon mountains, or to the upper part of houses. Dikes may stop the fury of the waves. But that is impossible or useless in earthquakes. There is scarce any other danger from which one may not escape. Lightning never consumed whole towns and provinces. The plague, it is true, may unpeople the greatest cities; but, it does not entirely destroy them: whereas the calamity we speak of, extends itself with an irresistible power over a whole country, and swallows up whole kingdoms and people, without leaving the smallest trace behind.

Lord God Almighty, who can stand before thee, when thou displayest thy power! who can

resist thee, when thou risest to judge the nations !
The earth trembles before thee, and is shaken.
The foundations of the mountains are troubled,
and quake when thy anger is kindled. The mountains tremble and the hillocks vanish. The earth quakes at thy presence, the habitable earth I say, and all who inhabit it. Thy anger spreads like fire, and the rocks are split asunder before thee. Who would not fear thee, O Ruler of the earth ! Yes, Lord, we acknowledge and adore thy sovereign Majesty. Thy judgments are incomprehensible ; but, at the same time, thou art good and merciful in all thy dispensations. O my soul, endeavour to be well convinced of this great truth ; whenever the Lord displays his judgments upon earth : when he consumes whole countries in the height of his anger ; *then even* his ways are ways of wisdom and goodness. Can we imagine that it is to destroy us, that he orders those frightful shocks ? We whom a breath of wind could destroy, can we think that the Most High has occasion to make use of the elements, and of all the strength of nature to reduce us to death ? Let us rather acknowledge higher views in those terrible catastrophes. The earthquakes themselves serve in the Creator's plan, towards the general preservation. And suppose that villages, towns, provinces, were buried in their ruins ; suppose that many millions

of creatures were destroyed, what are 10,000 provinces, what 100,000 creatures, in comparison of that innumerable number of beings, who fill the whole of the created universe? Let us be convinced, that every thing frightful or terrible in nature, all the apparent evil, all the imperfections of the world, are necessary for the preservation of the *whole*; and from thence, even for the manifestation of the glory of God. Great and almighty Being, I will therefore adore and bless thy name, even when thou sendest thy plagues: and scatterest terror and desolation on the earth. I will do more. I will rest with sure confidence upon thy fatherly care. Though even the world should be destroyed. Though the mountains should fall and sink into the sea, thou shouldest still be my support, my strength, and my refuge. Let me only possess a good conscience, and I shall find nothing in nature terrible.

F E B R U A R Y X.

THE ORDER ESTABLISHED BY GOD IN REGARD TO
THE LIFE AND DEATH OF MAN.

GOD observes the most exact and wonderful order in regard to our life and death. Both depend so little on a blind chance, that on the con-

trary all is regulated and measured in the wisest manner. If we make our calculation of a certain period of years, we shall find, that there dies a proportionable number of men at every age of life. At 35 or 36, there dies but one every year. On the other hand, there are annually more in proportion born than die; so that, if there dies ten, we may always reckon that there are twelve born. Besides this, God shews a particular wisdom in regard to the several ages of those who die. In the first years, out of three or four children, there generally dies one. At five years old, one out of twenty-five; at seven, one out of fifty; at ten, one out of an hundred; at fourteen and fifteen, one out of two hundred. At twenty years old, it is pretty equal to fifteen. After twenty-five, mortality begins again to increase. At thirty there dies one out of one hundred; at thirty-five, one out of fifty, &c. In how strong a light does God manifest, on this occasion, his wisdom and goodness, by sparing the younger people the most? And in what admirable proportion he takes them out of this world! Amongst a thousand who die, there is every where a pretty equal number of young people of twenty years old, of fifty, of sixty, and eighty years of age. It is true, that the sort of life men lead; their vices, wars, epidemical disorders, may carry

off more some years than others. But even here, Providence has taken care to set bounds to mortality in the following years, and to contrive that the loss which mankind had suffered should be amply repaired. Let us add to this, that every season of the year is not equally dangerous to mankind. Spring carries off the greatest number; and the beautiful month of May, wherein all nature seems to revive, is more destructive than March or April. But as soon as the heats increase with the month of June, disorders sensibly diminish. Summer and Autumn are more favourable to health than Winter.

Let us admire the providence of God, and his tender cares for our preservation. Even to the lowest beggar, and the child at the breast, has he numbered their days and years. How tranquil ought we to be, since our births, as well as our deaths, are so exactly determined, and how easy should it be to conquer any excessive fear of death? God has undoubtedly set limits to our lives, in the way most advantageous to us. If we enjoy the comfortable security of having found grace in the sight of God, we may be certain that we shall not be taken out of this world till we are ripe for eternity. Seduced by self-love, we often fancy, at the approach of death, that God treats us with great severity in calling us so soon out of this world; but let us be persuaded,

that however premature our death may appear to us, it happens precisely at the properest time, both for us and the rest of mankind. Let us not, however, presume (from this wise ordination of God in regard to our lives) upon a certain number of years. It is true, that fewer people die at fifteen than at three years old: But if, in a place where the population is not great, there dies annually but five young people, how can we be sure that we shall not be one of the number; or, if we pass our fifteenth year, that we shall not be carried off the next. Ought it not rather to animate us to finish the work appointed us, in the years we are likely to live; since it is uncertain whether those, wherein the mortality is generally greater, should not be fatal to us. Let us not be mad enough to flatter ourselves with a long life. Death makes its greatest ravages precisely in the years of our greatest strength; that is to say, between forty and sixty-five years of age; And it is when we think we have formed the wisest plans for living long and happily, that death comes suddenly in the midst of our hopes and projects. How wise therefore would it be to prepare betimes for that death which may every day surprise us. God, in his wisdom, has ordained that there should die upon this earth about 30,000 people every day; and

how likely are each of us to be of that number. How important is it, then, to think daily upon death, and to be well prepared for it.

F E B R U A R Y X I.

REFLECTIONS ON ICE.

WATER when condensed by cold, loses insensibly its fluidity, and changes by degrees as the cold increases into a solid body called *Ice*. This change, which at this season happens every day, deserves to be examined closely. At least, it is as well to learn some of the phenomena discovered in frozen water. Ice is a lighter body than water; for when frozen water is put into a temperate heat, so that it loosens from the sides of the vessel, the ice always swims at the top visibly; whereas, if it was heavier, it must necessarily sink to the bottom. What makes it lighter is the increase of its size; for, though it becomes at first more compact by cold, it dilates much when it becomes ice. This dilation forms with so much violence, that ice can cut a copper globe of such a thickness, as would require a force for that purpose of 28000 pounds. When the crust of ice forms itself at the top of the water, the ice is still entirely transparent, but when it thickens, it becomes opaque. This dark-

ness proceeds from the bubbles of air, more or less, which meet in the ice, and occasion a more frequent refraction of rays. Ice continually exhales many vapours, even in the severest cold. It has been found by repeated experiments, that in the sharpest cold, four pounds of ice lose by evaporation a whole pound of their weight in eighteen days; and that a piece of ice, weighing four ounces, becomes four grains lighter in the space of 24 hours. Ice generally begins at the top of the water. It is an error to imagine that it forms first at the bottom, and afterwards rises to the top: For the cold which forms the ice proceeding from the atmosphere, cannot take effect at the bottom of the water, without having first frozen all the upper part of it. The manner in which ice is formed is equally remarkable. It is in this way: When it freezes slowly, one sees a multitude of little strings come from the sides, within the glass, and take different directions, making all sorts of angles; and uniting again, to form at the top of the water, a coat of very thin ice. To these first threads others succeed, which multiply and enlarge into the form of flakes, which still increasing in size and number, unite with the first coat. By degrees, as the ice thickens, a multitude of bubbles appear, and the colder it grows, the larger the bubbles become; from whence it happens, that the transparency of the ice diminishes, particularly towards the mid-

dle; and then it begins to dilate with violence, and swell in a greater size. When the cold is very sharp, and that it freezes hard, there forms on the surface of the water a thin membrane, which quitting the sides of the glass, extends towards the middle. Under this membrane there comes others, which appear in triangular shapes, the basis of which is at the sides of the glass, while the sharpest angles go towards the middle. It is thus that the crust of ice thickens, becomes opaque by the bubbles of air it contains, and, by dilating, becomes more and more light.

But after having reflected on these phenomena, is it not natural to say to one's self, What order, what harmony, reigns even in the least works of nature! With what weight and measure is all regulated according to the times and seasons! How every thing in nature concurs to fulfil the designs of God! How great will our admiration be, when we have a more perfect and distinct knowledge of all his wise purposes.

F E B R U A R Y XII.

THE SPHERICAL FORM OF OUR EARTH.

PEOPLE generally fancy the earth an even plane, a round flat surface; but, if that was the case, the exterior limits of this surface would be found out; and, in approaching any place, it would be impossible to see the tops of towers and mountains before the lower parts of them. The earth, then must be a globe; but it is not exactly and strictly spherical, for it is a little more raised under the line, and flatter towards the two poles, nearly resembling an orange. But that deviation from a circular form is very inconsiderable, at the most only ten German miles, which is scarce perceptible in a globe, whose circumference is 5400 German miles, and the diameter 1720. There will be no doubt of the form of the earth being nearly spherical, if we consider, that, in the eclipses of the moon, the shadow which the earth casts on that planet is always round. Besides, if the earth was not round, how could they have sailed round it, or how should the stars rise and set sooner in the eastern than in the western countries. Here, again, is the wisdom of the Creator manifest. The form he has given the earth is the most proper and convenient for a world like ours, and

for its inhabitants. Light and heat, so necessary for the preservation of creatures, are, by this means, equally and uniformly distributed over the whole earth. From thence, also, proceed the daily and annual returns of night and day, heat and cold, wet and dry, so constant and regular. The water in the first place, is equally distributed over the globe, and the salutary use of the winds is felt over every part of the earth. We should be deprived of all those advantages, if our earth had any other form. In some countries, it would be a paradise, in others a chaos; one part of it would be swallowed up in water, the other burnt up with the heat of the sun. In certain countries, they would be exposed to furious tempests, which would destroy every thing, whilst they would be stifled in other places by the want of air, the current of which would be nearly stopped. One part of the earth would enjoy the benign influence of the sun, whilst the other would be frozen with cold. What pride and ignorance should we not betray, if we did not acknowledge in this, the hand of an almighty and beneficent Creator? Should we deserve to inhabit a world, where all is so wisely ordained, if, like the brutes, we were insensible to this admirable plan, and to the numberless blessings which accrue from it? No, my God and my Creator, let us never be guilty of such monstrous ingratitude. Let us adore thy wisdom: Our weakness permits

no more. He will vouchsafe to accept with goodness our humble attempts to glorify him, our thanksgiving (imperfect indeed) yet sincere.

FEBRUARY XIII.

ON THE SHORT DURATION OF SNOW.

WE behold the instability of snow; and how suddenly the heat of the sun, mild and damp air, or heavy rains, make it disappear. Every thing around us changes its appearance in a few hours; and there scarce remains the least trace of that snow, which had covered the streets, villages, and fields.

Is not this sudden revolution calculated to make us reflect on the uncertainty and vanity of all earthly goods? Undoubtedly, it is not without design, that nature presents us with such images of the frailty of worldly things. In every season, in every variation that their return occasions, nature tells us, with a strong and persuasive voice, this great truth, All is vanity. Let us look around us; do we see any thing that is not frail and perishable? How soon are we deprived of the pleasures of the senses! they disappear when we have scarce

begun to enjoy them. We are often at sunrise chearful and content; and before it sets we are plunged into sorrow and distress.

Has not every body experienced, in the course of their lives, how uncertain and transient the enjoyments here are? The riches of which we are so proud, make themselves wings, and fly away, like an eagle from the possessor, precisely when he most flattered himself with a peaceable and uninterrupted enjoyment of them. The step from the greatest opulence, to want and misery, is often as sudden as the coming of a thaw after the severest cold. We might be contented with this, if our life and health even were not as transitory as all other sublunary things.

It is too true, however, that these sort of reflections seldom occur to us, while we are in possession of earthly enjoyment. We are like those who, in a fine Winter's morn, venture to go abroad, and set out, without thinking of the sudden changes of the weather, so frequent at that season. When fortune smiles upon us, and that we are in the midst of joy and pleasure, we think we have nothing to fear; and we do not consider, how suddenly the happiest situation may be changed into misery. And supposing we have not hitherto had an opportunity of making this sad experience; it is certain at least, that a time will come, when we shall be convinced, by ourselves

of the nothingness and frailty of every thing here. To those who are at present in the spring or summer of life, Winter will soon come; and they will then experience how transient those enjoyments are, on which they had depended with so much confidence. They will learn that all earthly pleasures are like snow, which dazzles the eye indeed, but soon melt, and are no more.

Snow affords us another very important reflection. It reminds us of our weakness and want of power: What could all the industry, and all the force of man do, were they to undertake to remove the ice and snow from the ground? God works this change with infinite ease: He bids the wind to blow, and it thaws. Now, this God who does such great things in nature, has he not the same power in the world of spirits, and in the ordering of our destiny? He has but to speak the word, and our troubles cease.

FEBRUARY XIV.

A SHORT HISTORY OF THE CREATION.

THERE has been a time, when our earth and the celestial globes did not exist. God willed that they should be; and his almighty will produced the heavens and the earth. All was still a shapeless and confused mass, commonly called a chaos. In the first day of the creation, God gave motion to this mass, and separated the fiery and luminous parts. These particles joined together, and separated from the rest of matter, without however yet forming particular bodies. God called the light Day and the darkness Night. Hitherto, the fluid and solid bodies were still mixed together. God separated them: He collected the waters from our atmosphere: He caused vapours to arise from the earth, which growing thick, became clouds, and formed that lower firmament we call Sky. Those were the works of God the second day. The waters still covered the face of the earth. God destined the third day for the separation of them. The waters gathered together in different reservoirs, whilst, on the dry part, there appeared mountains, meadows, fields, valleys, forests, &c. Each tree and plant already bore its fruit, and all those vegetables contained the necessary seed for the propagation of their species. On the fourth day, (had

been separated from darkness) luminous bodies, to distinguish day from night, and to regulate the seasons of the year. Then appeared the sun, whose beneficent heat warms the earth, and makes it fruitful, and also lights us in the day time. As for the moon, it was formed out of the dark matter of the chaos. Till then, God had produced upon earth nothing but inanimate things. The fifth day was employed in giving existence to a part of the living creatures. God filled the waters with fish of different sorts and sizes, and he gave them bodies analogous to the element in which they were to live. He peopled the air with all sorts of birds, and impressed upon these beings the instinct of perpetuating their kind, to fill the air and the waters. There remained nothing more than to cover the earth also with living creatures, and God created them the sixth day. He drew from the earth a multitude of wild and domestic animals, to serve as well for tillage, as for the food and support of man. Finally, he produced an infinite multitude of insects and reptiles. These animals, when God created them were arrived at perfection. Every thing being thus prepared, the time was come for introducing man into the world, who was to be the Lord of all these creatures. God then created the first man ; and, as he belonged both to the intellectual and corporeal world, he gave him not only a body formed out of the earth, but also a reasonable

soul. From out of Adam's side he took woman, and presented her to him, as his companion. Those two beings, by which God terminated his works of the creation, were the most admirable masterpieces of his power and wisdom.

Is it possible to reflect on this history, without being struck with admiration and astonishment at the infinite power and wisdom manifested in the work of the Creation? On whatever side we cast our eyes over this great stage, we every where discover the Lord God Almighty, to whose immense power nothing is comparable. The heavens declare his glory, and the firmament sheweth his handy work. All the creatures are so many proofs of his adorable perfections. They are the impression and image of them. It is only by considering creatures in this point of view, and drawing this use from the contemplation of them, that we become worthy to inhabit this immense universe. Can we possibly acknowledge the greatness and glory of God, in the works of creation, without being touched and penetrated with the most lively sentiments of veneration, love, gratitude, and perfect confidence? These are objects worthy of the most profound respect, and warmest affection. He is the fertile source of all that is beautiful and delightful in nature. It is the Lord our God, who is alone worthy of homage, praise, and ado-

ration. This is the employment for which we were created, and to which the whole creation invites us. If we obey our Creator; if we endeavour to conform ourselves to the rules of wisdom and order, that he has followed in the formation and the arrangement of the universe, it will be the best manner of praising him. And if, full of filial confidence, we trust without fear in the tender mercies of God, it is the highest mark of respect and veneration he requires of us.

FEBRUARY XV.

BODILY ADVANTAGES THE BEASTS HAVE OVER US.

WHEN the bodies of beasts are attentively considered, we find they have many advantages which we have not. It is in the first place, undeniable, that their bodies are more solid, strong, and lasting. Most animals are able, as soon as they are born, to make use of their limbs, to seek their food, and to act according to the instinct given them by their Creator. They are not subject to all the cruel disorders we are liable to, and which so often destroy our constitutions. What wonderful instinct also, what sagacity and address

they shew in their motions, and in the use of their senses! How delicate is their smell! How subtle and piercing their sight! What agility and swiftness in all their motions, whether they fly or run! If we also consider the wonderful construction of their organs, their admirable make, the noble and majestic form of some animals, it will be found, that in regard to the body, we have few prerogatives over them; and that they have even many advantages over us. There are some people who complain of the lot of man, and who are discontented, because God has not given him the swiftness of birds, the strength of the horse, the distinguishing smell of the dogs, the piercing sight of the eagle, the fleetness of the stag. But in truth, stupidity and ignorance only could give birth to such murmers. If we knew the full value of a reasonable soul, we should be sensible of the immense advantage we have over animals, notwithstanding their instinct and address. Why has the Creator given to creatures deprived of reason, certain prerogatives peculiar to their bodies? Why has he endowed them with such great strength, senses so exquisite, so much lightness and address in the several motions of their bodies? Why has he impressed upon them such wonderful instinct, and so much sagacity for obtaining their food? It could only be to make them in some measure amends for the want of reason.

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and other faculties of the human mind, with which we are blessed. We can, by the use of our understandings, preserve ourselves from many disorders, and guard from many dangers. We may, by observing rules, or having recourse to medicine, cure our disorders and infirmities, or at least relieve them. Our intellectual faculties enable us to procure and enjoy a thousand conveniences. The intercourse with other men, social life, contributes to our welfare in many ways. The brute creation are deprived of all these advantages, by not having received the inestimable gift of reason. These inferior beings would then have been unhappy, if the Creator had not granted them some advantages to make amends for their want of understanding. He has accordingly, in some respects, been more liberal to them, than to us, as to bodily advantages! He has given them a make, a form, and senses, adapted to their wants. He has granted them variety of instinct, admirable industry and sagacity, to distinguish what is hurtful or salutary to them, to provide themselves food and other necessaries: Advantages which we have not in an equal degree, and which we can very well dispense with, as we have received privileges beyond comparison more considerable. Here we ought again to admire the paternal care of a gracious Providence towards man. It is for us, that God has formed the

brute with such wonderful art. It is in order to be of more essential service to us, that they are endowed with so much strength, agility, and industry, with bodies so robust and senses so exquisite. We should soon be liable to all sorts of inconveniences; we should be deprived of a number of great advantages, in regard to our support and our occupations, if the animals whose daily service is so necessary to us, had fewer bodily perfections. Let us consider also, that the advantages which the brutes enjoy are limited to the present world, whereas we are created for a better; where our bodies, raised to the highest degree of glory and perfection, will be freed from all the defects, and all the wants they are subject to upon earth.

FEBRUARY XVI.

THE MOON.

THE Moon, next to the sun, is, of all the celestial bodies, that which has the most salutary influence upon our globe; and, if it was not in itself an object worth our attention, it would become so at least by the great advantages we derive from it. Even with a naked eye, and without a telescope, we can discover several pheno-

mena of the moon. It is a round opaque body which borrows its light from the sun, and is apparent to every part of the earth in twenty-four hours, (as the earth moves round its axis) and completes its own revolution in little less than twenty-eight days. But what the naked eye may observe in the moon, is not to be compared to what we discover by the assistance of telescopes and calculations. How much are we obliged to those enlightened men, who, to extend our knowledge, and to render the glory of our Creator more and more manifest in the eyes of mankind, have made enquiries and discoveries, which enable us to form the highest notions of the celestial bodies? By means of their laborious observations we now know, that the moon, which appears to the naked eye so small, is, however, considerable, with relation to the earth. Its diameter is two thousand one hundred and eighty miles, its proportionable size as one is to forty-eight, and though the moon is nearer to us than any other planet, it is two hundred and forty thousand miles distance from this earth. There are several spots in the moon visible to the naked eye. Some of these spots are pale and dark; others are more or less luminous, according to the light they reflect. The bright spots are probably high mountains, which reflect the light of the sun from their tops? and the dark spots are fluid transparent bodies, seas,

which, conformably to their nature, absorb a great deal of light, and reflect very little back. These discoveries, to which no solid objection can be made, prove that the moon is not so inconsiderable a body as ignorant people imagine. The size, the distance, and all that we know of it, gives us, on the contrary, a new proof of the unlimited power and wisdom of our Creator. But was a planet so large as the moon designed for no other purpose than to light our globe for some nights? That body, which to all appearance resembles our earth, and seems proper for the same ends, was it created only to produce the flux and reflux of our seas, and for some advantages to our globe with which we are still unacquainted? Is it probable, that a surface of some millions of leagues should be without any living creatures? Would the supreme Being have left that immense space an empty desert? It would be inconsistent with the wisdom and goodness of God. Let us rather believe, that God has established his empire in that planet, as well as amongst us. Without doubt, there are innumerable creatures upon it, who adore with us the same Lord and Father, who are like us the objects of his providential care, and for whose happiness God provides with the same goodness as he does for ours. But as our knowledge in this respect is still very imperfect, let us confine ourselves to the advantages which accrue

to us from the moon. The goodness of Providence towards man manifests itself very sensibly in this case. The moon is placed near us, that she alone might shed more light upon our earth, than all the fixed stars together. We derive from it, not only an agreeable object, but a thousand conveniences and advantages. In what disorder and confusion should we be, in regard to the division and measure of time, were it not for the regularity with which the changes of the moon succeed each other. The calculations of Astronomy and the use of Almanacks, is owing to the observations made on the course of the moon.

FEBRUARY XVII.

THE RAIN WATERS THE EARTH AND MAKES IT
FRUITFUL.

THE fertility of the earth depends chiefly on the moisture it receives from rain and other watery vapours. If the watering of the earth was left to the care of man, it would be an endless trouble; and, notwithstanding every effort, drought and famine would destroy us. In vain would mankind use all their powers; it would not be sufficient to water what they had planted. They

might drain the pumps and the rivers, without giving water enough to the vegetables to keep them from withering and dying. How necessary, therefore, it was, that the vapours should be collected into clouds as in reservoirs, and fall afterwards by the assistance of the winds, upon the earth, to water the trees and plants. Every shower of rain enriches the earth, which would otherwise have a sad languishing appearance. The treasures which its surface prodigally bestows upon us are infinitely more valuable to us than all the metals and precious stones it contains in its bowels. Society might subsist very well without gold or silver, but not without corn, vegetables, and pasture.

Let us reflect on the inexpressible blessings that rain produces on our globe. A seasonable shower renews the face of the earth; and has much more force and effect than the dew, which in the night time moistens the grass and the leaves. The furrowed fields drink with avidity the beneficent rains poured upon them. The principles of fertility unfold themselves in the seeds, and second the labour of man. The husbandman plows, sows, and plants, God gives the increase. Men do what is in their power; and whatever is beyond their ability, the Lord himself provides for. In Winter, he covers the seeds as with a garment. In summer he warms and refreshes them by the rays of the

sun, and by rain. He crowns the year with his blessings, and he grants them so successively, that mankind are not merely nourished, but their hearts are filled with joy and gladness. The divine blessing does not fall on cultivated fields only; it extends also over the meadows and fields of the deserts. The countries even that are forsaken by man, (and from which no direct use is drawn) are still objects of providential care: For such is the goodness of God, that the hills and the valleys rejoice, and are adorned with smiling verdure. The rain does not fall in vain upon them: And if they do not yield fruit for our support, they are, at least, immense reservoirs of water for our earth; and they produce great variety of wholesome plants and simples good for our health, and which serve also as food for animals.

Never let us forget God's blessings. How often in this month particularly, is the earth watered with rain; but how seldom do we reflect as we ought upon this blessing. Let us learn to know the full value of it, and consider how gloomy, barren, and desert all nature would be, if the sky had been to us like copper, and the earth as iron. All the plants and trees would perish; every living creature would faint; the rivers would dry up; and we should breathe death in the air. But every time the rain waters the earth, God

sheds new blessings upon us. And yet we complain and murmur when the winter rains are heavy, or last any length of time. We rashly censure the government of God. Ah! rather let us bless the Creator, and praise his goodness evermore.

F E B R U A R Y XVIII.

THE IMAGES OF DEATH WHICH WINTER AFFORDS.

WE continually require warnings to make us think of the end of our days. We are too much inclined to banish the thought of death from our minds; and if it was otherwise, the avocations and pleasures of life, scarce allow us time for it; or, at least, to think of it so as to profit by it. It is, however, necessary for our repose and safety, that we should frequently reflect on this great event, in order to lessen our fears of it. Let us, therefore, take advantage of the present season for that purpose, and consider, as the images of death, some of the objects daily before us. Nature is deprived of the beauty and charms with which it was adorned in Summer: the fields and gardens where we walked with so much pleasure,

are useless and deserted; they have no longer any thing inviting in them; the days are too short and disagreeable, to make us wish to pass them in the country. Is not this a lively image of our state, when arrived at the winter of life: All the charms we are so vain of in the spring or summer of life disappear. The vexations, peevishness, and infirmities of age, no longer permit us to enjoy or relish the amusements of youth: and few young people find pleasure in our company. The short and gloomy days of age are a burden to us, and if we are reasonable, our wishes tend towards a better life. How short the days are at this season, and yet now they are so dull, we should be in the wrong to complain of it. As our frail life is a constant struggle against sin and misery, is it not a blessing that God has so limited our earthly existence? The path to heaven is narrow and full of thorns, ought we not then to bless Providence for making it so short? Several kinds of animals pass the Winter in a sound sleep, from which they do not awake till they feel the mild and enlivening warmth of Spring. So will our lifeless body rest in the grave, till the day of judgment shall awaken it from the sleep of death. In Winter, the night surprises, and comes upon us before we expect it, in the midst of our employments. Perhaps, when we proposed to finish such and such

business, the evening comes suddenly and interrupts us. Here again we find a very simple image of the night of death: It will happen, perhaps, when least expected. In the midst of projects for future days; in the midst of very important undertakings, which we had hoped to accomplish, this dreaded death will surprize us.

Grant, O God, that it may find us employed so as to be conducive to our eternal happiness! The most melancholy circumstance of the Winter nights is certainly their length, which deprive us so long of the sun; and perhaps one reason for dreading death is the thought of being so long in the grave. But as the Winter nights glide imperceptibly away in a sweet sleep, so will death insensibly pass by; and we shall unexpectedly behold the great light of the new creation shine forth. These are the edifying and useful reflections which Winter presents us. Let us not be afraid to contemplate these images of death; and let us endeavour to profit by them. Let the thought of our latter end be familiar, and present to us in every situation of life. Then shall we think of death without fear. It will be a comfort to us in affliction; a friend and faithful counsellor in prosperity; and a shield against temptations.

F E B R U A R Y XIX.

MEANS TO PROCURE FIRE.

IN these long winter nights, and during the severe cold weather, Fire is an inestimable blessing, for which we cannot be too grateful. How wretched and miserable our lives would be at this season, if God had not given to fire the virtue of warming and lighting our houses; and if this element was not to be found every where, and in every thing? It is to be found in sulphur, in the fat of animals, in the wax which bees gather, and in all vegetables, though they appear inactive, and there is no outward visible appearance of its effects. But their clashing together discovers it; and shews at least, that there must be fire in every part of the air. By the quick repeated friction of hard bodies, such as steel and flint, the fire they contain is put in motion; the particles which fly out of these bodies, and are violently acted against each other, acquire force capable of inflaming any thing. This is the common method of obtaining fire for our domestic uses. But we are generally content with enjoying the continual service this element does us, in the preparation of our food, in warming us, and in lighting our apart-

ments, without being at the trouble to enquire how fire is produced. If we were more attentive to the causes of certain natural phenomena, we should every where find traces of infinite goodness and wisdom. Certainly it does not require much reflection to discover them in this instance. It is with a beneficent view that God has spread fire all around us, and throughout all nature, in order to be of all sorts of use, and that it might be enjoyed on all occasions. This matter takes every kind of form for our use: and by uniting with many other bodies, it becomes a great advantage. How happy for us if we did but accustom ourselves to be more observant of the many blessings we daily receive from the liberal hand of God.— Yet, alas! it is precisely that constant and daily enjoyment of them which makes us so cold and indifferent to them. These proofs, however, which we daily receive of God's goodness, are what we can least dispense with; and, from that single circumstance, they merit our particular acknowledgment. Let us then often think of our wise and merciful Preserver; and, in enjoying his blessings, even those which appear the most inconsiderable, let us accustom ourselves to raise our hearts to him, and to honour him as the source of all good.

F E B R U A R Y XX.

THE EQUAL DISTRIBUTION OF THE SEASONS.

WHEN the sun is far from us, and when the severe cold binds and shuts up our earth, there are some countries, where the inhabitants enjoy all the beauties of Spring; others, where they are gathering rich harvests; and others, in fine, where Autumn fills their granaries with fruit. It is in this manner, that divine wisdom has regulated the change of seasons, and distributed the same favour to all his creatures at different times. His impartial love extends itself over every being he has made, without respect to rank, nation, or merit. It is sufficient that they require his blessings, for him to take pleasure in granting them. His beneficent views extend over the desarts of Arabia, with as much goodness, as over the smiling countries of Europe: and his government is the same, from pole to pole. But, if God distributes the blessings of this life equally, why are some countries deprived of the pleasures of Spring, while we enjoy them in such abundance? Why are the rays of the sun so partially spread, that, in some climates, there is darkness, and in others light, for whole months together? Why are not the frozen countries near the pole as beautiful and

fertile as our plains and valleys? What art thou, O man, who darest to ask such questions? What right hast thou to demand an account of the infinitely wise Being, for the manner in which he rules the world? Vain mortal, learn to be humble, and to acknowledge traces of a sovereign wisdom, in the very things wherein thy weak understanding imagined there were defects. Perhaps, thou supposest Providence has refused, to certain parts of the earth, advantages and happiness, which have been lavished with profusion elsewhere. Not so: God has given to each country what was necessary to the life, support, and content of his creatures. All is planned according to the climate in which they live; and Providence has, every where, provided for their preservation and support. The hours of the day vary in different parts of the world, according to certain rules: but all the zones have nearly the same number. There is scarce any inhabited country, which the sun shines more upon than another. All the difference is, that they enjoy it at different times. With the inhabitants of the torrid zone, the days and nights are all of equal length, while, with the neighbouring zones, that is the case but twice a year. It is true, that the sun quits them by turns, and gives summer to one side of the earth, while it abandons the other to winter. But it never fails to return regularly,

from one of the limits of its annual course to the other ; and, if the winter days are shorter than the nights, Summer makes ample amends, in that respect. Even the inhabitants of the frigid zone, who are deprived of the sight of the sun for several months, see it afterwards on their horizon several following months ; and, though they have some hours less of day light, they are made amends for it by long twilights,

Lord ! The earth is full of thy mereies. Thy goodness is spread over all the heavens, and extends to the very clouds.

FEBRUARY XXI.

THE UTILITY OF OUR SENSES.

I HAVE senses, that is to say, I am a being, who by means of several wonderful organs of my body, can procure myself several sorts of sensations. By my eyes, I can acquire the perception of light and colours ; by my ears that of different sounds ; by smell and taste, that of agreeable or disagreeable emanations of flavours and scents, of sweet and bitter, and other such properties of the body, which I can make use of ; and lastly, by my feeling, I have the sense of heat and cold, of wet

and dry, of soft and hard, &c. Now, I represent to myself how wretched I should be, if I was deprived of the organs of speech, hearing, taste, smell, or feeling. If I had not *sight*, how could I escape that multitude of dangers which surround me, or form to myself any idea of the magnificence of the heavens, the beauty of the country, and all the agreeable objects, with which the earth is filled? Without the organ of *hearing*, how could I perceive many dangers at a distance? How could I exchange thoughts, or communicate them? How enjoy harmony, and the charms of music? How could I, in my youth, acquire school knowledge, learn languages, obtain ideas, the talent of reading, and many other faculties, which distinguish me so superiorly from the brute creation? If I had been refused the organs of *smell*, and *taste*, how could I distinguish, in my food, what was hurtful or otherwise, enjoy the perfumes of spring, and a thousand things which now afford me such pleasing sensations. And lastly, without my *feeling*, how should I be able to discover, either in food, in sleep, or awake, what was hurtful to me; or, how should I be able to attend to my preservation. I cannot, therefore, too much praise and bless God, that I see, hear, smell and speak. I adore my merciful Creator. I acknowledge and praise his goodness. My mouth shall glorify him in songs of praise and thanksgiving. My ears

shall be open to the universal hymn which all nature chants to his honour. Oh! may I never be insensible to the value of my senses, or make a bad use of them. Thou, my Creator, hast given them to me for the noblest purposes. How unworthy should I be of thy boundless goodness, of the admirable formation of my body, if I only employed my senses in brutal enjoyments, without proposing to myself any higher views? How wretched should I be, if I only sought my happiness in sensuality, and preferred it to the much nobler pleasures of the mind; for there will come a time, when my eyes will no longer be affected by external objects, when the harmonious sounds of music will no longer please my ear, nor the most exquisite dainty, nor delicious wines soothe my palate. A time will come, when my senses will take no pleasure nor satisfaction in any earthly thing. How wretched should I then be, if I knew nothing that could feed my mind, or comfort my soul. Divine Spirit, direct and lead me, so to make use of my senses, that I may never lose sight of the great purpose of my existence.

F E B R U A R Y XXII.

ELEVATION OF THE SOUL TO GOD.

WHEN I lift up my heart to God, I approach the end for which I was placed in this world, and I taste before-hand the felicity which awaits me in heaven. How contemptible do the vain trifling amusements of the age appear to me, when my heart accustoms itself to seek its joy and happiness in God! How humbled and little in my own eyes do I appear, when I compare my nothingness with the infinite majesty of God! and what an ardent desire it kindles in my heart for that happy and glorious day when I shall be for ever united to the supreme eternal Being! But am I sufficiently sensible of the inestimable advantage of reflecting often on God! to induce me to form, in reality, the resolution of doing it as I ought. Alas! instead of filling my mind with this great and sublime object, I but too often fix my thoughts on earthly and perishable things. Instead of finding delight in meditating on my Creator, I take pleasure in nothing but what flatters my senses. Instead of loving that Being, in whom is centered all that can be conceived lovely, and who alone can make me perfectly blest, I fix my heart on the world, and I passionately love objects which cannot insure my happiness, and which I cannot

long enjoy. May my past experience teach me wisdom hereafter. Hitherto I have only loved temporal blessings, and have wholly given myself up to them. I have sought my peace and happiness in things even more frail and perishable than myself. But, through the grace of God, my eyes are opened. I contemplate a Being, the center of all perfection, who has made me out of nothing, and given me a soul, the desires of which can only be satisfied with infinite blessings. To that Being I consecrate my heart, devoting myself entirely and for ever to him.

FEBRUARY XXIII.

CAUSES OF HEAT AND COLD.

WHAT occasions the transition from excessive heat to the severest cold? By what means does nature work these changes? It is not to be doubted, that during Winter, the temperature depends on the situation of the sun. For, when our globe, in its annual course round the sun, is placed so that its northern hemisphere turns from it when the rays fall very obliquely upon our countries, and when the sun is but a few hours above our horizon, it is not possible its rays should give

warmth. But the heat does not entirely depend on the situation and distance of the sun, which runs over the same constellations every year, and is not farther from us one year than another : yet the degrees of cold in our winters differ very much. Some winters are as mild as autumn, and in others deep seas are frozen, and men and animals can scarce protect themselves from the cold. Even in the countries where most of the year the days and nights are of equal length, the power of the sun is too weak to melt the ice on the top of the mountains. The severest winter reigns at their height, and the hottest summer at their feet; though the same rays fall equally on the top and bottom of the mountains. If the sun was the only cause of heat and cold, these phenomena would be unaccountable. Nature is rich in means, and a thousand causes, unknown perhaps to us, second its operations. But we know at least, that the nature of the air and the winds have great influence in regard to the heat and cold of a country. From thence it often happens to be cold in the longest days of Summer, when the atmosphere is loaded with vapours, and the sky has been long darkened with clouds, or when the sharp north winds blow strong. From thence it happens also, that in winter the cold is not severe, when the southerly winds bring us warm air. The nature even of the soil contributes to heat or cold. In

Siberia, for example, where the ground is full of salt-petre, and other salts, it is always colder than in countries nearer the pole, and where the rays of the sun are more oblique. The heat of the earth itself, and its interior heat, cause also a difference of heat and cold in the soil of certain countries.

These causes, and perhaps many others unknown to us, occasion the changes of heat and cold upon the earth. But who can know all the springs of the great machine of the universe, or explain their different effects? Most of the phenomena puzzle and confound us; and we are obliged to confess, that all the sagacity of the greatest philosophers does not enable them to penetrate into the depths of nature. We see but a part, and undoubtedly the smallest part of her operations. And certainly it is for very wise reasons that the Creator has concealed from us the causes of so many effects which we see in the course of nature and his providence. He meant by this to teach us to look into ourselves. What use, in reality, would the most perfect knowledge of nature be to us, if we neglected to rectify, and be acquainted with our own hearts? We know enough of it to teach us wisdom and content. Perhaps a greater knowledge of nature would make us vain. Perhaps it would disturb our rest, and make us forget God. Let us en-

deavour only to make a good use of the little we know, by becoming better ; and thus glorifying the supreme Being. If after all our enquiries and reflections, there still remains many things concealed from us, let us from thence draw this natural conclusion. That the wisdom of God surpasses all our conceptions, and that it is infinite ; that our understandings are limited ; and therefore, with a proper sense of our weakness and incapacity, our great duty is to humble ourselves, and adore the most high God.

FEBRUARY XXIV.

SINGULARITIES IN THE KINGDOM OF MINERALS.

IT would be difficult, if not impossible, for our weak and limited understandings, to take in at once the whole kingdom of nature, and to learn altogether the wonderful properties of things. We shall more easily obtain a knowledge of nature, if we begin by some separate objects, some particular beauties, and dwell first on the most striking phenomena. Let us then, at present, reflect on some curiosities among minerals. We shall discover there, as every where else, traces of the infinite wisdom of God. Amongst these

there are few more worthy our attention than the loadstone. When this stone is suspended, it turns itself constantly, one side towards the north, and the other towards the south; and it is in those two sides, or poles, that it has the strongest power of attraction. It is remarkable, that it attracts nothing but iron; and that, if two loadstones are put together, their poles of different denomination, that is to say, the southern and northern pole, attract one another; whereas, the poles of the same name, that is to say the two southern, or the two northern, repel one another, and seem to fly from each other.

There are properties found in quicksilver, equally wonderful. It takes every form one wishes to give it; but, it always ends, by re-assuming its own natural form. In the fire, it rises into vapour. When it is shaken a long time, it changes into dust. By being dissolved, it becomes a hard and transparent crystal; but it can always be restored to its former fluid state. Gold is the first and most valuable of all metals, not only from its scarcity, but from its admirable properties. It is the hardest and most unalterable of all bodies. It can bear for two months, being in the hottest fire, without any sensible loss in its weight. Its parts are so fine, that a grain of beaten gold can cover fifty square inches, in such a manner, that the naked eye may distinguish,

on the two surfaces four millions of particles ; and, its ductility is such, that, with a single grain, one may draw out a thread five hundred feet long. The wonderful form of common salt ; the brilliant stones ; the singular figures of the earth where the metals are concealed ; the petrified bodies that are often found on the high mountains, some hundred miles from the sea, which is their original source ; and an hundred other singularities in the mineral world, seem formed to awaken our curiosity. No employment whatever has more charms, is more satisfactory, or has more variety in it, than an attentive observation of nature. Supposing we were to live ages on the earth, and, that we were to employ every day, every hour, in studying only the singularities amongst minerals, there would still be, at the end of that time, a thousand things we could not explain, which would remain hidden from us, and would, more and more, raise our curiosity. Since our lives scarce extend to half an age, let us then make good use of the little time granted us ; and let us devote it, as much as our first duties will permit, to the observation of nature ; and thus enjoy the most innocent and lasting pleasures of the mind. The satisfaction, we shall find in it, will increase more and more, in proportion as we reflect more attentively on the views God has proposed to himself in his

works; for the wonders of nature are infinitely more to be admired, and more sublime, than all the productions of human art. The latter do not always promote our welfare, or make us better. They are often mere objects of fruitless admiration. But all the works of nature, and even the most singular among them, tend to the universal good of the world. They exist, not only to be seen, but also to be enjoyed; and all, without exception, proclaim the goodness, as well as the wisdom of God.

FEBRUARY XXV.

DAILY PROOFS EXPERIENCED OF DIVINE PROVIDENCE.

LET us try to enumerate all the blessings which the mercy of God has heaped upon us, from the first moment of existence to the present hour. Could we reckon the stars? we could as little think of numbering the blessings we have received, during the course of one year only. What would it be, then, during the course, perhaps, of a long life? What mercies received during our infancy, though they are now forgotten? nights passed quietly in a sound sleep? food that nourish-

ed and strengthened us ? From how many visible and invisible dangers have we not been delivered ? How often has God provided for our necessities, and confounded our incredulity, when we thought it impossible ? Nothing can happen to us, from which the eye of heaven cannot save us. Every day of our lives has increased the number of God's mercies. Each time the sun begins his course, his goodness is renewed towards us. And who knows how often God has shewn his mercy, and preserved us from dangers unknown to us, and with which we shall only be acquainted in the world to come ! What shall we then say of the blessings of the Lord, in having redeemed us, through Jesus Christ, in having given us the gospel to teach us the way to salvation ? What mercy, that we were not born in the darkness of Paganism, instead of the light of Christianity ; and that God continually works to our sanctification and perfection ? Are not these so many proofs of his goodness and tender compassion ? I am willing to believe, that it is impossible any body can think of reckoning the amazing number of God's blessings. Let us then limit ourselves to a single day, and endeavour to compute the mercies which each day brings with it : Light, air, food, strength to labour, the dwelling we inhabit, and the relations on which our happiness depends.

Oh ! may these daily proofs of the providence and goodness of God make the strongest and most lasting impressions on our hearts. They will, undoubtedly, if our souls are susceptible of any emotions of gratitude. But in order to maintain in our hearts a lively remembrance of God's blessings, let us often compute them. The more we think of them, the more we shall be disposed to magnify the Lord our God, and the more delighted we shall be in celebrating his praise.

F E B R U A R Y XXVI.

TRANQUILITY OF THE NIGHT.

I CANNOT think, without admiration and gratitude, on the tender care of Providence to secure us repose at night. When the day closes, a calm is spread over all nature, which proclaims to every creature a rest from labour, and invites mankind to sleep. During the time destined for the repose of man, nature, in favour of him, suspends noise, dazzling light, and every lively impression. All animals, whose activity might disturb our sleep have themselves occasion to sleep. The birds seek their nests; the horse, the ox, and our other domestic animals, sleep around us. But this tranquillity in the night is not equally agree-

able to every body. Many, who from pain, sickness, and other accidents pass restless nights, wish this calm, this melancholy silence interrupted. Their sufferings and their uneasiness seem to increase, whilst all are asleep around them. They reckon the hours, and are impatient for day, in the hope that society will be some relief to them. Many wicked people also, who pass the day in continual disorder and dissipation, find the tranquillity of the night painful and troublesome. It awakens their conscience, and the least noise frightens them. Health and peace of mind procure the sweetest sleep. God has disposed all things happily to give us a quiet repose.

But how often does man interrupt the tranquillity of night by levity or malice! The boisterous noise of drunkards, and the wild spirits of libertines often disturb the repose of others, and deprive them of the sweets of sleep. Ought we not to respect the order God has so wisely established in nature too much, to disturb it in the levity of our hearts? Ought we not to love our fellow creatures enough to prevent us from disturbing their sleep, and by that means perhaps endangering both health and life? Alas! this ill-timed noise, may happen to disturb and frighten, in one place, a dying person, in another, a woman in labour, or a mother nursing her child.

The repose I hope for in the grave will be very different. There I shall sleep in peace, and shall not be awakened till the voice of my Judge shall call me back to life. How happy are the faithful who are released from all the miseries to which we are subject in this world. Here, the very happiest life is passed in continual hopes and fears, and our repose is disturbed by numberless troubles and anxieties. The righteous, on the contrary, whose bodies rest quietly in the grave, are free from all misery; and never more will cares, sorrow, or pain, embitter their joy.

F E B R U A R Y XXVII.

WINTER IS THE IMAGE OF OUR LIFE.

IN these winter days there are continual changes. Flakes of snow and showers of rain, storms and calms, cloudy days and serene skies, succeed each other. The snow has scarce covered nature with its brilliant whiteness, when the rain comes to destroy it. The sun scarce shews itself, when it again disappears from us. Are there not the same vicissitudes in the moral world? If many of the days in winter are dark, dull, and gloomy, so are

many scenes through life. But as storms and darkness are necessary, and conformable to the wise laws of nature; so are the disagreeable accidents, and the adversity which we sometimes experience in the world. Who can prevent the day from being obscured by dark clouds? or our happiness from being disturbed, sometimes by others, and sometimes by accidents? How is it possible the sky should be always calm and serene; or that our minds should enjoy uninterrupted repose? The present constitution of our nature will as little admit of our being always free from pain and disagreeable sensations as the constitution of the corporeal world would admit of the air never being loaded with clouds. Passions, which often produce good, but often also produce bad effects, are exactly in the moral world what storms are in nature: And as winter and frost are sources of fertility; so are afflictions and sufferings the means to attain wisdom and virtue. Darkness teaches us the value of light. A continual light would dazzle and fatigue the sight. A serene day never gives us so much pleasure, as when it has been preceded by dark and cloudy weather. In the same manner we should be less sensible of the blessing of health, were we not taught to feel it by the painful effects of sickness. The excellence and advantage of friendship would touch us less sensibly, if we did not sometimes meet with faith-

less and false friends. After all, it is certain, that we in general are too much inclined to exaggerate our evils. The events and accidents which happen to us are seldom as melancholy as we imagine. Our self-love, our pride, and our excess of delicacy, blind us often to such a degree, that we look on every thing that happens to us as real and great evils; whilst, on the contrary, we take no notice of our real advantages, and the sweets which attend us. It is at least certain, that all our troubles ought to be reckoned as nothing, in comparison of the multitude of blessings and pleasures that are bestowed upon us by divine Providence. These very evils of which we complain, will prove real though disguised blessings, if we know how to make a wise use of them: just as the snow, the storms, the frost, and other variations of the present season, are means which God makes use of to grant us new favours. When the sky has been long dark and stormy, the clouds at length dissipate, and calm and sunshine bring back joy and gladness. The heavier the showers are, the sooner the clouds vanish. The darker they are, the sooner the rays of the sun disperse them. Misfortunes fill up but a short space of our lives, and when they appear to us the heaviest, when we seem sinking under them, it is a proof that they are soon to end.

These are the thoughts which will support me in every misfortune. As the expectation of spring makes the gloomy appearance of winter supportable, so does the sweet hope of futurity encourage me to bear with resignation and fortitude the present miseries. Through the darkness of this life, there opens to me the delightful prospect of an happy hereafter. What I foresee in eternity already sheds light on the path through which I walk; and by this way, I shall imperceptibly arrive at the blessed abodes of peace, light, and happiness.

F E B R U A R Y X X V I I I .

U S E O F M O U N T A I N S .

WOULD it not be more advantageous to our globe, if its surface was not so uneven, and if it was not disfigured by so many mountains? It seems to me, sometimes, that the form of the earth would be much more regular, that our sight would extend farther, that we should travel more conveniently, and that we would enjoy many other advantages, if the earth was only one vast plain. But, perhaps, I am mistaken in this opinion. I wish then to enquire into it, and reflect.

on the use of mountains, in order to see, if I have reason to be discontented with the present plan of our globe.

In the first place, it is evident, that it is from the mountains and hills that the springs flow, which are produced either by heavy snows, or by the clouds with which those heights are always covered. It is that which keeps up the course of great and small rivers. Those chains of high mountains which extend from east to west, and which traverse a great tract of country, serve to hinder the dispersion of vapours, and to condense them into water. They are as so many stills, which prepare and render the water sweet, for the use of man and beast. Their declivity gives a moderate fall to the springs, and from thence they flow gently into the vallies, which they water and make fruitful. Besides this inestimable advantage of springs and fountains which the mountains procure us, they have many others. They serve for dwellings to several kinds of animals useful to us: they afford subsistence, without any trouble of ours, to multitudes of beasts, whose flesh and skins are very necessary to us. On the sides of mountains, there grow trees, plants, and an innumerable quantity of salutary herbs and roots, which are not cultivated with equal success in the plains, or have not the same virtues. It is

in the bowels of the mountains that metals and minerals form themselves, which would not propagate so well in low and level countries, for want of necessary moisture. Mountains serve also to shelter us from blasts of the cold and cutting north and east winds. They are the fosterers of the most exquisite vines, and their bosoms contain precious stones. They are in a manner the bulwarks of nature, to guard countries from the fury of seas and tempests; and, like ramparts and natural fortifications, they defend several states from the invasion of enemies, and the ambition of conquerors. They perhaps preserve the balance of our globe. It is true, that some of these mountains are dangerous and formidable. They occasion many shocks and earthquakes; and the volcanos spread flames and destruction all around. But we must consider, that, as sulphur, salpêtre, and other minerals, not only contribute greatly to the fertility of the earth, but are also necessary to the life and moistening of all sorts of plants, it was proper there should be a kind of universal magazine, where these materials should be deposited, in order to be afterwards scattered by the winds, over the whole earth. And though there should be some inconvenience from them, they cannot furnish any reasonable objection against the wisdom and goodness of God, since the blessings we derive from them are infinitely superior to

the evils they occasion. In this respect, then, we have no reason to complain of the contrivance of our globe. If there were no mountains, we should be deprived of several sorts of stones and fossils. There would be no rivers, no springs, no lakes. The sea itself would become a stagnating marsh. We should want a great number of the finest and most salutary plants, and several sorts of animals. The privation of one single thing in nature might be sufficient to make our lives sad and miserable. Let us therefore conclude, that mountains, as well as every other part of it, prove the wisdom, power, and goodness of the Creator.

FEBRUARY XXIX.

MOTIVES FOR CONFIDENCE IN GOD.

WHEN I reflect on the infinite perfections which are manifested in the plan of the universe, and on the manner in which God conducts and governs it, my confidence in him must necessarily increase and strengthen more and more. How easy ought I to be, in regard to my life, since it is in the hands of that great Being, of whose power, wisdom, and goodness I have as many proofs as there are creatures in my sight? What

wishes can I form for my happiness, which may not be fulfilled by that God, whose unlimited power has been able to raise out of nothing so many millions of worlds? Are there any troubles, sorrows, or difficulties, from which I may not be happily drawn, by that infinite wisdom which has spread the heavens, and formed every creature in so wonderful a manner? What can hinder me from committing my way unto the Lord? What can prevent me from having recourse to him, in all my troubles and distresses, and from hoping that he will hear my prayer? It is true, that I am but a very weak creature; I am lost in the vast multitude of his works; and, when I represent to myself his greatness, and the infinite extent of his government, I often say to myself: Who am I to dare to hope that this great being will always listen to me, and that he will deign to cast his eyes on me, every time I may have recourse to him? But, on the other hand, I comfort myself, when I consider that his greatness, his majesty, and the government of so many millions of worlds, does not hinder him from extending his cares for the smallest worm: Why then may he not give some attention to me, who, though so insignificant, have received from him, both as a man, and as a Christian, prerogatives much superior to other creatures? Here my conscience strikes me, and reproaches me with being a sin-

ner, with having, a thousand and a thousand times, wilfully transgressed the commands of my Creator and Maker; and, from thence, being without comparifon more unworthy of his goodness than the lowest creature, fince they at leaft, have not offended him, nor ever could be guilty of fin towards him. My confcience represents the juftice of God to me, in as ftrong colours as the whole univerfe paints to me his power and goodness. But it is here that the falutary truths of the gospel come to my affiftance. It is only through our Redeemer that I can look up to this God, whose greatness all the world proclaims; that I can, I fay, look up to him as a father, put my trust in him, and hope that he will grant me happiness, not only in this life, but to all eternity.

MARCH I.

AN INVITATION TO CONTEMPLATE GOD IN THE
WORKS OF NATURE.

O YE who adore with me the Lord, by whom the heavens and the earth were made, come and reflect on his works! Behold the wonders he has done! Acknowledge, and have a lively fenfe of his mercies! Of all the knowledge we can ac-

quire this is the most important, the most easy and agreeable. We could dispense with many sciences which we take such pains to learn; but the knowledge of God and his works is absolutely necessary, if we wish to fulfil the end of our creation, and by that means secure our happiness here and hereafter. We do well undoubtedly to seek to know God, such as he has revealed himself to us in his divine word: but we shall not receive that revelation with an entire conviction of heart, if we do not join to it this other revelation, by which he has made himself manifest to us throughout all nature, as our Lord, our Father, and Benefactor. It is the best preparation to understand, and to receive as we ought the gospel of Christ, for this reason, because, in teaching his disciples the truth of religion, the divine Redeemer often spoke of the works of nature, and made use of the objects which the physical and moral world afford, to lead his hearers to reflections on spiritual and heavenly things. In general it is a noble employment, and well worthy of man, to study the book of nature continually; to learn in it the truths which may remind us of the immense greatness of God, and our own littleness; his blessings, and the obligations they impose on us. It is shameful for man to be inattentive to the wonders which surround him on every side, and to be as insensible to them as the brutes are.

If reason has been given to us, it is that we may make use of it in acknowledging the perfections of God in his works. What employment can be more pleasing to the human mind than to contemplate, in the heavens, the earth, the waters, the night and day, in a word, throughout all nature, the wisdom, power, and goodness of our Creator and Preserver! What can be conceived more delightful, than to discover in the whole creation, in all the natural world, in every thing we see, traces of the providence and tender mercies of the Father of all beings! There are no amusements, no worldly joys, of which we are not soon tired, but these are pleasures ever new. Let us adore God in his wonderful works. Let us endeavour more and more to be acquainted with him. Let us reflect on his greatness. Let us admire his power and wisdom in each of his creatures. And let us observe, in every season of the year, his goodness, and tender mercies towards every being on earth. This employment will make us not only happy but virtuous; for, if we have God and his works continually in our sight, with what love and veneration shall we not be penetrated? with what confidence shall we not resign ourselves to him? with what zeal and transport shall we not sing his praise?

M A R C H . II.

BAD WEATHER.

NATURE is still robbed of its ornaments. Its appearance is still gloomy and savage. The sky is covered with thick clouds, and the air is loaded with vapours and snow. The mornings are wrapped up in impenetrable fogs, that conceal the view of the rising sun from us; which scarce shews itself, before dark and stormy clouds arise to prevent the earth from feeling its benign influence. How little warmth it gives! No herb ventures to spring up. Every thing still remains dead and stripped of their charms.

When will the lovely Spring return! When will those fine days come, in which the early flowers invite us to the fields and gardens! I doubt not many hold this language, and bear with impatience the dull March days. But let us consider that even this temperature of the air which we dislike, contributes to the good of the whole, and is part of the plan formed by God in his government. Were it not for these days which appear to us so disagreeable, all our hopes of the advantages of Summer would vanish. Storms are blessings of nature, and frosts are means she makes use of to render the earth fruitful. If the air was at present milder, and the weather finer, we

should see millions of insects hatched, which would be very hurtful to the seeds sown in the earth, and to the blossoms. What a risk also would the buds run which the mild weather had brought forth, if there came a frost? But such is our blindness and ignorance, that we murmur against God, when we ought to adore and bless him; and we take for imperfections what ought to make us acknowledge his wisdom and goodness. We seldom know what we desire. To punish us for our imprudent and unreasonable wishes, God need only to grant them. If the spring already displayed all its charms, how many following days would lose their value! How quickly should we tire of them! And how hurtful to our health would the sudden change be from severe cold to intense heat! It is a blessing of God, (a blessing which, like many others, we are insensible to,) that Spring draws on imperceptibly. Its delay keeps us in the most agreeable expectation, and our pleasure is but the greater when it comes. The rough stormy weather of March is a remains of the severity of Winter. It prepares us for the enjoyment of fine days, and is the fore-runner of that delightful calm which Spring sheds upon our country.

M A R C H III.

THE STATE OF SOME ANIMALS DURING WINTER.

WE do not yet see any of those millions of insects and birds, which during Summer, are in the air, in the water and on the earth. At the approach of Winter they disappear from our countries, where the climate does not agree with them, and where they can no longer find food. The first stormy day is a signal to them to rest from their labour, to put an end to their active life, and to quit their homes. We mistake if we go farther, and believe that Winter destroys those animals: they continue to live even in that season of the year. Providence so provides, that none of them perish. The body of some animals is formed in such a manner, that the same causes which deprive them of food, make such revolutions in them as prevent them requiring any. The cold numbs them, they fall into a sound sleep, which lasts till the return of heat opens the earth, causes their necessary food to spring up, and wakens them from their heaviness. These animals hide themselves in the sand, in pits or hollow places in the bottoms of ponds or marshes, where they cannot be found out or disturbed. Their state is a kind of death, or rather a swoon: and they

do not revive till the general warmth of Spring penetrates to their retreats. Some sort of birds, at the approach of Winter, undertake long journeys, to seek in other climates a more temperate air and proper food. Some fly in numbers from one country to another. Several go to Africa, crossing the Mediterranean, and return the following Spring to our countries.

Lord ! how admirable is thy wisdom ! How tender and beneficent thy mercies to the least of thy creatures. Thou hast impressed upon the mind of some beasts that wonderful instinct, which warns them of the day in which they should abandon their Summer habitations, in order to pass their Winter in another climate. Thou hast pointed out to others, the places where they may pass in safety their night of winter in a sound sleep. Thou revivest them again when the season of their new life arrives. Every time I reflect on these changes, they lead me naturally to think of what will happen to myself at my death ; for my state will, in some measure, resemble that of these birds. At the end of my life I shall also quit my home, my pleasures, and my companions, to go into a better world. I shall also rest and sleep some time, but at the moment of the new creation I shall awake ; and, clothed with the strength and beauty of youth, I shall begin a life that will be eternal. What happens to animals affords me

also another edifying reflection : I see from thence that God watches even over the very smallest link of the immense chain of beings. I discover with what fatherly goodness, he provided for the preservation of the weakest and lowest of creatures, in situations wherein it would appear impossible to mere human wisdom. Would it not then be doing injustice to the wise providence of our Creator, to doubt his care of us. Surely, that God who gives to insects and to birds their food in due season : that God who provides them retreats, in pits and rocks ; who directs them to find their food in distant countries ; that same God will take care of us in time of need and distress.

M A R C H IV.

WINDS AND TEMPESTS.

WITH what violence the air is agitated ! Hear how the winds roar in the upper regions ! Behold, how the clouds gather ! how rapidly they fly ! what deluges of rain they pour upon the earth ! How terrible the force of the winds ! they tear up the largest oaks ; they throw down palaces ; they shake the foundation of the earth ; and perhaps, alas ! at this moment, some un-

happy ship is dragged into the abyſs by the violence of the ſtorm. The winds roar above it, and a gulph is underneath, and all around it the waves of the ſea riſe mountain high. Alas, in what diſtreſs are thoſe unhappy people! How they wring their hands! How they ſhudder at every wave that riſes, to bury them in the deep! Before the fury of the tempeſt abates, there may be ſome millions of families ruined; and more ſtill who will be plunged into the greateſt miſery, by the death of their relations and friends. But why does the wiſe and beneficent Sovereign of the world thus permit the winds to ſpread terror and deſtruction by ſea and land? Mad queſtion! What temerity to dare judge, and cenſure the government of a Being infinitely wiſe! Ought we not rather to reflect on his ways with reſpectful ſilence, and be perſuaded they are always full of goodneſs? If whirlwinds and tempeſts make terrible ravages; if they ſhatter ſhips or plunge them into the bottom of the ſea: if they overthrow buildings, and deſtroy men and animals: have we a right, for that reaſon, to blame the government of God?

They who calculated with ſo much care the miſchief this element occaſions, have they reckoned the advantages which accrue from it? Audacious mortals! admire and adore the Sovereign of the world, who can even make ſtorms contribute to the good of the univerſe. It is, in reality, by

the particular direction of Providence, that, towards Spring, there usually arises storms and tempests. At the return of that fine season, the moist and mild air opens upon the earth, which had been closed all the winter. By this change of temperature, the air, which the cold had purified, is again filled with hurtful vapours. Plagues and epidemic disorders would soon destroy men and animals, if the air, by being agitated with storms, was not restored to its purity and wholesomeness. By that means, not only the vapours, which would otherwise stagnate, are put in motion, but also vapours of different natures being violently agitated in every direction, it makes a happy mixture more healthful to mankind, and more fruitful for the earth. Is it not, besides, a great advantage, that the winds serve, in some degree, as wings for the ships; and that these floating houses, loaded with the riches of different parts of the world, can often, in less than twenty four hours, make a passage of more than fifty miles? Thus, even in the midst of storms and tempests, God is a benefactor to his creatures.

MARCH V.

THE AURORA BOREALIS.

ONE often sees in winter, towards the spring equinox, a sort of transparent, bright, and variegated clouds in the sky. From the north there appears a splendid light, which comes close to the other cloud. Lastly from these northern clouds, there dart white rays of light, which reach to the zenith. This ethereal phenomenon, called, Northern Lights, or Aurora Borealis, is still, in some respects, one of these natural effects, the cause of which cannot be very exactly determined. Some naturalists suppose it to be a magnetic substance, which accumulating and thickening towards the north, may shed a certain light at a distance. Others think, what is more probable, that the Aurora Borealis is occasioned by nitrous and frozen particles, which rising in the air, and joined to the vapours, and to the fat and oily exhalations sent forth by the whales, and other immense cetaceous fishes, which abound in the north, are lighted up, and made brilliant by that light which the Lapones almost continually enjoy. Lastly, some philosophers pretend, that, this phenomenon is only the atmosphere inflamed, and a storm not yet come to maturity. The uncertainty in which the best informed and most

learned men are, in respect to this phenomenon, is very instructive to us. How many things do we see in the air, in the sky, and upon the earth which are still mysteries, even to the very best naturalists? These phenomena ought to humble the human mind, whose pride and vain curiosity often prevent acknowledging how limited its faculties are. A thousand inconsiderable things confound the most learned in their meditations, and escape our enquiries. There are a thousand objects, which, indeed, we acknowledge to be planned with much wisdom, and to be very useful; but we seldom arrive at discovering their true principles, their purpose, their connection with the corporeal world and its several parts. However, this ignorance does not affect our happiness; and though, for example, we cannot exactly determine from whence proceeds the *Aurora Borealis*, we can live quietly and well without it. After all, ignorant as we may be on this point and a number of others, we know, at least, that every phenomenon of the physical and intellectual world happens only by the will of an all-wise, almighty, and perfect Being, who directs them for the good of the universe. We have no occasion to know more in a life so short as ours; and this is doubtless sufficient to induce us to adore and bless the Author of things so wonderful, and so much above our comprehension.

But we ought also to bless God ! for not having been born in those superstitious and ignorant times when whole nations were thrown into consternation and terror by these phenomena. This magnificent sight painted to their disturbed imagination whole armies, and battles fought in the air ; and they drew most dreadful prognostics from them. The Aurora Borealis was to them a prophet which foretold sometimes war, sometimes famine, and sometimes epidemic disorders.

But, for my part, I find, in the mild and majestic splendor of this light, a sign of the power and goodness of God. I behold without fear ; because I know that the Lord of heaven has not created any thing to be a torment and misfortune to his creatures. And perhaps there are people in the northern countries who draw great advantages from these phenomena, though they so little influence ours.

MARCH VI.

THE EXTREME SMALLNESS OF CERTAIN BODIES.

THE vaulted sky, the depths of space, and its unlimited extent, those vast bodies which shine in the firmament, the variety of creatures which cover our globe, and which fill the air and the

water, all these declare the glory of the mighty God, and tell us his power his infinite. But it must not be supposed that the power and wisdom of the Creator is only visible in the immense size of the world. Even in the smallest objects, in the most inconsiderable parts of the natural world, the greatest subjects of admiration are to be found. The construction of a grain of sand, seen through a glass which magnifies objects a million of times, is enough to fill the greatest mind with astonishment. Who indeed would not be surprised to learn, that in the midst of a grain of sand, which the eye can scarce discover, there is a living insect. Examine also with a microscope the mould of a bit of bread: you will see in it a thick forest of fruit trees; the branches, leaves, and fruit of which are easy to be distinguished. But even in your body you may perceive objects of inconceivable smallness, which perhaps you have not yet taken notice of, and yet deserve all your admiration. It is covered with an innumerable multitude of pores, of which the naked eye can only distinguish a small part. The epidermis resembles the scales of a fish; it has been calculated, that a grain of sand would cover 250 of those scales; and that one single scale would cover 500 of those interstices, or those pores which give passage to the sweat and insensible perspiration. Have you ever reflected on the wonderful construction

of the hairs of your head? As inconsiderable as they appear, they are one of the Creator's master-pieces. They are hollow pipes, each of which has its root, a substance full of marrow, and several little threads which unite them. In that whitish matter, that scale which food leaves upon teeth there, (by means of a microscope) there has been discovered, a great number of little animals; and it has been found that in a space, not larger than a grain of gun-powder, there was a million of those animalcula.

Are not these so many circumstances as ought to make us humble in our own eyes, and raise our ideas of the supreme Being? Every thing ought to convince us, that there are thousands of objects in nature, which are to us impenetrable mysteries. That there remains a thousand discoveries to be made; and that things which are not entirely unknown to us, we still know but superficially. There are perhaps a multitude of wonders in our own bodies, which no one has thought of or suspected. How many imperceptible objects may there not be in nature, out of the reach of the microscope, and of our understanding, which, if known to us, would afford new proofs of the greatness of God? But the little we know, is more than sufficient to convince us, that in small things, as well as in great, his power, wisdom, and goodness is manifested most admirably. The sand of

the sea declares the glory of the mighty God, as well as the expanse of the heavens, the splendor of the sun, or the fury of the tempests. The lowest worm bids us give glory to its Creator; the trees in the magnificence of their cloathing, the grain and the seeds in their minuteness, cry aloud with one voice, It is God who has made us, glory be to our Creator. Even the most diminutive creature upon earth reminds us of his greatness. In the formation of the knat, as much as in the construction of the elephant: in the humble form of a blade of grass, as in the majestic height of the oak; in a grain of sand, as well as in the highest mountain.

M A R C H VII.

WINTER GRADUALLY SUBSIDES.

THE same Wisdom which at the beginning of winter, caused the cold to come on gradually, has ordained that it should diminish also by degrees; so that this severe season now draws insensibly towards its end. The sun already stays longer above our horizon, and reflects more heat upon the earth. Flakes of snow no longer cloud and darken the atmosphere. The nights are now only attend-

ed with a white frost, which vanishes with the mid-day sun. The air becomes serene. The fogs and vapours disperse, or fall in fertile showers of rain. The earth becomes lighter, more moveable, and fitter to receive moisture. The seeds begin to shoot. The branches which appeared dead, begin again to bud; and some blades of grass venture to spring out of the earth. We see the preparations which nature is making, in order to restore verdure to the fields, leaves to the trees, and flowers to the gardens. She silently labours to bring back Spring, though the storms, the hail and frosty nights, still oppose it in some measure. She will soon lose her sad gloomy appearance; and the earth will shine again in all the beauty of youth. Every change in nature is done thus gradually. Every effect which we perceive, has been prepared by preceding effects, and a thousand little circumstances which escaped our observation, succeed one another, till the end which nature proposes to herself is fulfilled. An infinite multitude of springs must be put in motion, before a single blade of grass can shoot, or a bud can blossom. All the changes in winter so disagreeable to us, must necessarily take place in order to open to us a promising prospect. Storms, rain, snow, and frost were essential, that the earth might rest and recover its strength and fertility.

Neither could these changes happen sooner or later, be more or less sudden, or last longer or shorter, without injury of some sort to the fertility of the earth. Now that the advantages of these plans of nature open insensibly to us, we acknowledge her designs; and the happy consequences of the Winter plainly demonstrate that it is a real blessing to the earth.

As the seasons, so do the periods and events of our lives continually vary. In that of every man there is so admirable and mysterious a chain of causes and effects, that nothing but futurity can discover to us why such and such events were necessary and beneficial. I see, perhaps, at present, why God caused me to be born of such parents rather than others; why precisely such a town should be the place of my birth; why such and such unhappy accidents happened to me; why it was necessary I should embrace such a kind of life and no other. All this was then concealed from me: But now I comprehend that the past was necessary for the present, and for the future: and that several events, which did not at all seem to agree with the plan of my life, were, however, indispensable to make me as happy as I now am. I also gradually approach the moment in which all the events of my life will be laid open and explained, O my God! grant that my heart may then be full of hope and joy.

MARCH VIII.

THE HUMAN BODY RELATIVELY TO ITS EXTERIOR
PARTS.

NOW that nature does not yet appear in full beauty; while the fields and gardens afford no charms to unbend my mind agreeably, I will meditate on myself, and reflect on the formation of my body. It will furnish me with the best opportunity of acknowledging the power and wisdom of God; and I shall learn at the same time to be sensible of the value of my life.

Of all the visible parts of the body, the head holds the first rank, not only from its beauty but, because it contains the principles of sensation and motion. All the sentiments and passions of the soul are painted on the face, which is the most beautiful part of man, and wherein are placed the organs of the principal senses, by means of which we receive the impression of outward objects. The several motions of the lips and tongue, whether they touch the palate or the teeth, serve for articulation, and enable us to give so many different inflections to the voice and to sound. With teeth we can either cut or grind our food, and the great number of glands in the mouth fur-

nish the saliva necessary for digestion. The head is placed on the neck, where it moves different ways, as on a pivot, in order to turn to which side it pleases. After the neck comes the shoulder, so formed as to bear heavy loads. To the shoulders are fastened arms, and to those, hands formed in such a manner, that they serve to perform many movements, to touch, to take, to raise, to push away, &c. and the joints and bones support and facilitate the motions. The chest contains and guards the heart and lungs, and for that purpose, is composed of hard strong ribs and bones. The midriff separates the chest from the belly, which contains the stomach, the liver, the spleen, and the intestines. All this mass rests upon the hips, the thighs, and the legs, which, as well as the arms, have several joints to make the motions easy. The feet support the whole: and the toes also contribute to it, as they serve to fix the foot firm on the ground. The flesh and skin cover the whole body. The hair of the head, and the down on other parts, guard from the bad effects of cold. What variety in these exterior parts of the body, and yet they are only the principal and most essential of them. Their form, construction, order, situation, motions, and harmony, all afford incontestible proofs of the wisdom and goodness of our Creator. No part of the human body is imperfect or deformed; none

useless; no one hurts the other. If, for example, we were deprived of the use of our hands, or if they were not provided with so many joints, we should be unable to do many things we do. If we were to preserve our reason, and yet be quadrupeds or reptiles, we should be unfit for arts or trade; we could not act, move, or turn, as we wished. If we had but one eye in the middle of our foreheads, it would be impossible to see to the right or left; to take in so large a view, or distinguish so many objects at a time. In a word, all the parts of the body are so constructed and placed, as to concur to the beauty and perfection of the whole, and are well adapted for their different purposes.

Let us therefore bless our Creator, who has made us so wonderfully: And, while we feel the happiness of our formation, let the sense of his goodness never be effaced from our minds.

M A R C H IX.

THE HOPE OF SPRING.

EVERY day draws us near to the pleasures of Spring, and gives us hope of the time approaching, in which we may breathe more freely, and con-

template nature with more satisfaction and joy. This sweet expectation is almost the only one which does not deceive us, being founded on the invariable laws of nature. The charms of this hope are felt in every heart without distinction; for the beggar, as well as the monarch, may behold the Spring approach with pure joy, and promise himself sure pleasures in it. This hope is not attended with impatience, because it extends very far, and takes in a multitude of objects. The coming of Spring procures us a thousand new pleasures. The beauty and perfume of the flowers; the singing of the birds; and every where the chearful prospect of mirth and pleasure. Most earthly hopes are attended with anxieties: But that of Spring is as satisfactory as it is innocent and pure; for nature so seldom deceives us. On the contrary, her presents generally surpass our expectations, both in number and quantity. Let us, therefore, in these boisterous March days give ourselves up entirely to the sweet hope of Spring, and the joy it inspires. It is a great blessing of Providence, that in all the changes of seasons, and the vicissitudes of life, we can still nourish hope in our hearts. Winter which now draws near its end, would have been infinitely more melancholy without this comfortable prospect. Encouraged by the hope of Spring, we have patiently borne the inconvenience of cold and bad weather,

many are now on the point of seeing that hope abundantly realized. A few more disagreeable days, and the sky will become serene, the air milder; the sun will revive nature, and the earth will reassume its ornaments.

What sources of joy and comfort God has opened to us to soften the evils of life. With what goodness he throws a veil over the future evils which are to happen; whilst, on the contrary, he gives a distinct view of the blessings and pleasures designed us. Without hope the earth would be a vale of misery, and our lives a series of sorrow and pain. But he has given us hope, as an agreeable companion through our pilgrimage. When all around us is gloomy, it opens for us a cheerful prospect of futurity, which revives and enables us to walk with content through the sorrowful paths of life.

M A R C H X.

THE WHITE FROST.

IT is very usual at this season, for the bushes and other things exposed to the open air, to appear as if they were covered with sugar. The hoar or white frost are only frozen vapours, which

lose their fluidity from the bodies they touch. There falls a dew every day, however imperceptible it may be. It is heat only which can render it fluid, but it is very easy for a body to lose its warmth, particularly when it is thin and delicate, and happens to touch bodies much colder than itself. In the cold nights of Spring, the bushes must lose more heat than thicker branches. It is consequently natural that the little twigs should be covered with frost, when the others are free from it. When the dew fixes on bodies considerably colder than itself, it communicates its heat to them immediately; and of course, the dew having lost the cause of its fluidity, its parts connect, draw close, and form a light coat of ice. If to those vapours ready to freeze there join others not yet so, the latter instantly lose their fluidity, and settling irregularly on the former, or near them, altogether form what is called the hoar-frost. It is therefore easy to comprehend, how it sometimes happens that our hair, and the hair of animals is covered with frost. The perspiration and exhalation of the mouth and nose, if they settle on hair, and are exposed to the cold air, occasion this sort of congelation. It is in the same way that we can account for the shining threads often seen in Winter on buildings. If the walls are cold to a certain degree, the watery vapours which are settled on them condense and freeze.

But when the cold is extreme, and that it freezes hard, this effect does not follow, because the vapours are already frozen in the air: and supposing even that they light upon the wall, they cannot remain there, because they only touch it with some of their parts. However, it sometimes happens in hard frosts, that the walls become white, as if covered with snow; but it is a certain proof that the severity of the cold is going to abate. Here again, let us acknowledge the wise and beneficent views of our Creator. In his hand, and under his direction, all the effects of nature, at every season, tend towards the general good and the fertility of the earth; and since every phenomenon, in each link of the great chain of creation, contributes to the perfection of the whole, is it not reasonable to acknowledge the minutest parts, and to celebrate with grateful hearts every blessing he bestows upon us?

M A R C H X I.

VARIETY OF MEANS WHICH CONTRIBUTE TO
THE FERTILITY OF NATURE.

THE wisdom of Providence makes use of several means to render the corporeal world fruitful. Sometimes the clouds fall in rain, in order to pu-

rify the air from hurtful vapours, to soften the earth, and give it new nourishing juices. At other times, when the earth is deprived of the blessings of rain, a soft dew moistens and renders the ground fruitful, revives the feeble plants ready to-wither. God has ordained that each season should have peculiar means of enriching the earth. The snow which in Winter covered our fields and meadows, not only served to guard the earth from the severe cold; but, by means of the salts with which it is mixed, contributed also to the fertility of the land. The frequent storms that are felt in Spring, preserve the air from corruption, dry the earth, and disperse the rain over the whole surface of the globe. What benign influence have they also upon the earth in making it fruitful; though during Summer, they excite the terror of timid and fearful people! With every thunder shower the Creator spreads his precious blessings on the earth. One may without extravagance, maintain that there is no revolution in the air, or on the earth, which does not, directly or indirectly, contribute to the fertility of our globe. Each season brings back the phenomena peculiar to it: and each phenomenon of nature produces effects, the happy influence of which is more or less visible. Even those plagues which cause the entire destruction of certain countries, are only particular evils, which contribute to fulfil

beneficent views, as there results from them advantages to the world, when considered in the whole.

Here I represent to myself the different means by which (if I may use the expression) God renders the moral world fruitful. In order to lead mankind to a sense of their destination, to a horror of sin, and to the practice of virtue, God sometimes makes use of violent, and sometimes of mild methods. Sometimes he thinks proper to punish the sinner severely, to lay heavy judgments, and of a long duration, upon him, in order to awaken him from his slumber. He speaks to hardened hearts, as to the Israelites on mount Sinai, with lightnings and with a voice of thunder. With others he makes use of opposite measures. He endeavours to snatch them from vice and vanity, and to draw them to him by the gentle ways of blessings and goodness.

M A R C H XII.

THE ADVANTAGES THE SEA PROCURES US.

A SUPERFICIAL glance cast on our globe might give reason to think there is not a just proportion of water and of land. At first sight, it appears as if the immense quantity of water, which takes up

so great part of it, was inconsistent with the idea we ought to have of the divine wisdom and goodness. We fancy it might be more advantageous, if the Creator had changed into firm land the enormous space, which comprehends the ocean, the seas, the lakes and rivers. But in this, as in a thousand other things, we only shew our ignorance and want of judgment.

If the ocean was reduced to half what it is, it could only produce half the vapours it exhales; consequently, we could not have so many rivers, and the earth would not be sufficiently watered: For the quantity of the waters which rise, is in proportion to the surface of the sea, and the heat which draws them. Thus, the Creator has wisely ordained, that the sea should be large enough to furnish the necessary vapours for the watering the earth, which would not have been possible, if it had filled a less space. The sea then has been made a general reservoir of the waters, in order that the heat of the sun should draw vapours from it, which afterwards fall in rain; or, when they gather at the top of mountains, become sources of rivers. What would become of the advantages which result from commerce, if that great heap of water did not exist? God did not design, that one part of the globe should be totally independent of the rest. On the contrary, he designed, that there should be intercourse between all

the people of the earth. It was for that purpose he intermixed it with seas, in order to open a communication between those at the greatest distance from each other. How could we bring over our riches and treasures, if we had no other means but horses and carriages? How could commerce go on, if navigation did not open to us the easiest way?

Why are we not more grateful to God for this blessing! The knowledge of his adorable attributes, which the earth and seas impress upon us, ought it not to excite us to glorify his holy name?

M A R C H XIII.

THE DIFFERENCE BETWEEN ANIMALS AND PLANTS.

THE difference between animals and plants is so great, and so visible, that it requires but a very slight observation to be convinced of it. Undoubtedly one remarkable difference consists in the animals having the faculty of moving and changing place, a faculty of which the vegetables are totally deprived. A much more essential difference is the faculty of feeling; which cannot be

denied to animals, whilst it cannot be granted to plants. To this must be added, the manner of being nourished, which is still another distinction between them: Animals, by means of exterior organs, are capable of chusing their proper food; plants, on the contrary, are obliged to take what nourishment the earth affords, without any choice. This is given them from the moisture of the earth, and by the action of the veins in the leaves, which pump and draw in the nourishing juices with which the air is filled. The number of species is much greater in the animal, than in the vegetable kingdom. In the insects alone, there may, perhaps, be a greater number of classes (taking in those which can only be seen with a microscope) than there are of visible plants on the surface of the globe: Neither have the animals such conformity with each other as the plants have, whose resemblance makes it difficult to class them. Another circumstance which marks the difference between the two kingdoms, is the manner in which they propagate, very distinct from each other, notwithstanding the accidental similarity found between them. Who can avoid observing another remarkable difference, as to the place where they live. The earth is the only place where plants can grow and multiply: most of them rise above its surface, and are fastened to the soil by roots more or less strong. Others are

entirely under ground. A small number grow in the water; but, in order to live, it is necessary they should take root in the earth. Animals, on the contrary, are less limited in place. An innumerable multitude people the surface and the interior parts of the earth. Some inhabit the bottom of the sea. Others live in the waters, at a considerable depth. Many live in the air, in vegetables, in the bodies of men and animals, in fluid matter, and even in stones. If we consider animals and plants, in respect to size, we shall find still a striking difference. Between the size of a whale and that of a mite, the distinction is much greater, than between the highest oak, and a bit of moss. Lastly it is particularly in the form of animals and plants, that the general and most striking difference subsists. Most of the latter have, in that respect, so distinct a character, that it is impossible to confound them with vegetables. However, let us not imagine we have perfectly discovered the limits which divide the animal from the vegetable kingdom, or, that we have found out all that distinguishes them. Nature, to diversify her works, makes use of almost imperceptible shades. In the chain of beings, perfection increases successively, and rises by millions of degrees, so that a more perfect species differs very little from that which preceded it. How narrow are the bounds which separate the plant

from the animal ! There are plants which appear sensible, and animals which seem deprived of sensation. Nothing proves this better than the discoveries made in coral. Formerly it was supposed that corals were sea plants, but now, there are strong reasons for placing them among animals ; for, what was then taken for a flower, has proved to be really an animal. Thus, every order of creatures rises insensibly to perfection, by numberless degrees. The more observations are made the more reason is there to be convinced, that it is impossible to fix the exact limits of the three kingdoms, the mineral, vegetable, and animal ; and that amongst most creatures there is more conformity than dissimilarity. It is at least certain, that the limits which divide the most perfect creatures from those that are a degree less so, become at last imperceptible to understandings so limited as ours. These observations ought to convince us that the world, with all the creatures it contains, is the work of an infinite Being. So much harmony and such differences, so much variety with so much uniformity, can only proceed from the almighty, omniscient, and perfect Being, who created the universe and all that is in it. Let our hearts rise towards him. Let us go from the stone to the plant, from the plant to the brute, from the brute to man, and from man to the heavenly spirits ; then take our flight towards the ever-

everlasting Being, the Creator of the world, the Preserver of plants, of animals, the Father of mankind, the King of spirits. Measure, (if possible) measure his greatness, and try to found the depths of his wisdom. Eternal God! created beings are too weak to know thy works. They are immense; and to tell them all, would be to be infinite like thee. Therefore, the less capable we are of conceiving how far the wisdom of God extends, the more we ought to reflect on his greatness; and, above all, to imitate his goodness as much as is in our power. We see that no creature is deprived of his merciful care. It is extended to the stone and the plant, as well as to men and animals. In his sight (in some respects) there is no distinction: His mercy is over all his works. Let us, in this also, endeavour to imitate our Maker. We fill, it is true, a distinguished rank amongst created beings; but, let us take care not to be cruel or tyrannical towards creatures who appear to be inferior to us. Let us rather endeavour to enjoy, with gratitude and moderation, all those designed by God for our use.

M A R C H XIV.

THE UNIFORMITY AND VARIETY IN THE WORKS
OF NATURE.

THE sky over our heads, and the earth under our feet, remain always the same from age to age; and yet they afford us now and then spectacles as varied as they are magnificent. Sometimes the sky is covered with clouds, sometimes serene, sometimes blue, and sometimes of different colours. The darkness of night and the light of noon-day, the dazzling light of the sun and the paler light of the moon succeed each other regularly. The immeasurable space of the heavens appears sometimes a desert, and sometimes strewed with an infinite number of stars. To how many changes and revolutions also is our earth subject! For some months uniform, and without ornaments, the severity of the Winter robbed it of its beauty; the Spring renews its youth; Summer will shew it still more rich and beautiful; and in some months after, Autumn will pour upon us every sort of fruit. What variety also on our globe between one country and another! Here a flat level country presents us plains beyond the limits of sight; there high mountains rise crowned with forests; at their feet fertile vallies are watered with brooks and

rivers. Here gulphs and precipices; there smooth lakes; and farther off impetuous torrents. On every side is seen a variety which pleases the eye, and opens the heart to sensations of pure and sweet delight. The same assemblage of uniformity and variety is found in all the vegetables on our globe. They take from their common mother all the same nature and the same food; they have all the same manner of springing up and growing; yet, what a prodigious difference between a blade of grass and an oak! All together are ranged under certain classes. Those of the same species are indeed very like one another: and yet what difference we see in them. It is the same in respect to animals. The wisdom of the Creator has divided them also into classes: and whatever variety there is in them, they still preserve essential resemblances. There is even a certain degree of conformity between man and the lowest class of animals. However superior man may be to animals in many respects, has he not in common with them, and even with plants, the same means of food? Is it not the sun, the air, the earth, and water, which provides it for them all alike? The plants grow, ripen, fade, and die; and those laws of nature extend to animals, and even to mankind. If we next examine the variety of the human species, what an astonishing as-

semblage of conformity and diversity? Human nature, in all times, and amongst all people, is ever the same; and yet we find, that of this innumerable multitude of men spread over the earth, each individual has a form peculiar to himself; particular talents and countenance, which, to a certain degree, serve to distinguish him from any other. It seems as if the wisdom of the Creator chose to vary in the highest degree all his works, as far as was compatible with the essential construction peculiar to each species. All the creatures on our globe are divided into three classes, minerals, vegetables, and animals. These classes divide into kinds. The kinds into numberless sorts of individuals. From thence it is, that there is no creature on earth alone, or without resemblance to its own species. There is no species which has not some connection with others, or a general affinity with the rest of the world. From this assemblage of uniformity and diversity which is of infinite extent, derives the order and beauty of the universe. The difference between the creatures of our globe, proves the wisdom of God, who chose that each being should have its certain place, and has so fixed their destination, that it would be impossible to change the connection or distinction he has made between them. Even the minutest works of nature, such as can only be seen through a microscope, discover such

union and variety together, as must necessarily raise our souls to the contemplation of the infinite wisdom of the Creator.

MARCH XV.

SEEDS.

ALL vegetables spring from seeds; but the greater number of these are not sown, and are even invisible to us. It is nature that disperses them. With this view, she has furnished some seeds with a sort of light down, or little feathers, which serve as wings for the wind to carry them away, and spread them every where. Other seeds are small, and heavy enough to fall perpendicularly on the earth, and to sink of themselves into it. Others of a larger or lighter sort, which might be carried away by the wind, have one or more little hooks to catch, and prevent them from going too far from their place. There are some inclosed in elastic cases, which (as soon as they are touched, or acquire a certain degree, either of dryness or moisture) are driven or cast to more convenient distances. And what is still more admirable is, that nature seems to have given to some birds the care of planting trees. They sow the nuts which afterwards shoot and grow. Ravens

have been thus seen to plant oaks; and this is their method: They make a hole with their bill, and drop an acorn into it, which they afterward cover with earth and moss. It must not be supposed they do all this with an intention to plant trees. It is instinct alone which prompts them. They bury the acorn for their food. It shoots and becomes an oak. Many seeds, by their agreeable taste and smell, invite the birds to swallow them; and thus transport them here and there, and render them fruitful by the heat of their bowels. After having kept them some time in their stomachs, they let them fall on the ground, where they take root, shoot, blossom, and produce new seeds.

Let us here admire the wise and tender care of Providence. If the sowing of seeds in meadows and forests had been entirely left to mankind, in what a condition would they be? Observe, how, at the return of Spring, the grass and flowers spring up, and adorn the earth, without our having in any degree contributed towards it. But this is not all that is to be admired in respect to seeds. It is remarkable, that the whole plant, however great it may be, is all concealed in the narrow space of the seed. The whole trunk of the oak, its leaves, branches, and root, are already in the acorn. As the preservation and propagation of all species depends greatly on the seed, the Creator has taken care to protect it sufficiently.

The plants which remain all the year in the ground, how carefully are their blossoms and seeds inclosed during Winter in the buds, where they are well protected, and covered with close coats of curious texture. As for those plants which cannot bear the cold of Winter, they are preserved under ground by their roots or fruit, till the mild warmth of Spring makes them bud again. Some seeds are lodged in the middle of the fruit; others in pods and shells; some in wooden cases and cods. But every seed is protected and preserved in the manner most suitable to its nature. Every where may we trace the divine Creator. The minutest works of nature prove his wisdom and goodness.

M A R C H XVI.

ON THE SIZE AND DISTANCE OF THE SUN.

IF we had never been thoroughly sensible of the extreme smallness of our globe, and our own nothingness, perhaps we should feel it in a strong manner, by reflecting on that immense body which communicates light and heat, not only to our earth but also to a multitude of other worlds. The sun is almost in the centre of the planetary system, and in some degree monarch of sixteen worlds;

for the fix planets of the first magnitude, and the ten secondary planets, are only worlds which receive their light, heat, and inward motion from the sun. This alone is sufficient to prove the prodigious size of it, which is still more confirmed by its being visibly great, notwithstanding the immense distance it is from us. But there can remain no doubt, if we admit the calculation and measures of astronomers; the result of which is, that the diameter of the sun is at least an hundred times larger than that of the earth; and consequently, the globe of the sun must be at least a million of times larger than ours. The astronomers vary in opinion as to its distance: But, in drawing a line between the greatest and least that they suppose, it must be twenty-two thousand half diameters of the earth. Now, the half diameter of the earth is eight hundred and fifty German leagues. This distance is perfectly suited to the effects of the sun, and its influence upon us. Some planets are nearer to it: But if our earth was in their situation, it would be reduced to ashes. Other planets are so far from it, that if our globe was at an equal distance, it would be enveloped in a frightful and perpetual darkness, and would not be habitable. We have reason however to believe, that those worlds, which are more or less near the sun than we are, have been adapted by the Creator for inhabitants. Either their constitution

or their atmosphere being different from ours, or the inhabitants being of another nature, are enabled to support the extremes of heat and cold. But perhaps, what has just been said of the size and distance of the sun may appear exaggerated. For our eyes see nothing so large as the earth we inhabit. It is to that we compare the sun, which is a million of times larger. It appears small to us at such a distance; and from thence we are tempted to believe our eyes rather than our reason. If God had placed us on a planet, which in comparison with the earth, was as small as the earth is in comparison of the sun, the size of the earth would appear to us as improbable, as that of the sun does. It is not wonderful then, that we should be struck with astonishment in reflecting on the size and distance of that body. But it was not merely to excite our admiration, that God placed it in the heavens. This admiration ought to make us look up to the great Being, who is the Creator, the Guide, and Preserver of the sun. In comparison of his greatness, the greatness of the sun is but a speck; and its brightness but a shadow. What must be the greatness, the power, and glory of him who created the sun? Let us try to pursue this idea; let us dwell on it; and we shall find it infinitely more incomprehensible than the size of the sun. If the earth is so small in comparison of that globe of fire, how inexpressibly

little must it be in comparison of the Lord ! If there is such immense space between the sun and the earth, what an inconceivable distance must there be between us and infinity !—" Who is like " unto thee, O Lord ! What can be compared to " thee ! No praise can equal thy greatness ; no " understanding, however sublime, can reach that " height."

M A R C H XVII.

THE IMPERFECT KNOWLEDGE WE HAVE OF NATURE.

WHY has not the Creator given us faculties for a more profound knowledge of the corporeal world ? The limits of our understanding, in this respect, seem to be directly contrary to the end that he proposed. He requires that we should know his perfections, and magnify his name. But the true means of being better acquainted with his glorious attributes, and to magnify them more worthily, would it not be by giving us a more perfect knowledge of the works of the creation ? It appears to me, as if I could so much the better admire the greatness of the supreme Being, and contribute so much the more effectually to the

glorification of his holy name, if I was able to take in the whole, to know the perfection of each part, to discover all the laws and springs of nature. If I, at present, admire the infinite greatness of God, while I only know a part of his works, what would my sentiments be, how should I be absorbed in the meditation of his glorious attributes ! With what profound veneration should I not adore him, if I could penetrate farther into the knowledge of nature, and could better explain all its springs ! But, perhaps, I am mistaken in this opinion ; at least, it is certain, that, since God has not thought proper to give me a deeper knowledge of nature, I must glorify him, in proportion to my powers, more than I should have done in the other case. Ought I to be surprized, that, in my present state, I cannot discover the first principles of nature. The organs of my senses are too weak to penetrate into the source of things, and I cannot form to myself a corporeal idea of objects, which my senses are not able to discern. Now, there are an infinite number of things in the world, which my senses cannot distinguish. When I try to represent to myself the infinitely great, and the infinitely small, in nature, my imagination is lost. When I reflect on the swiftness of light, my senses are not able to follow such velocity. And when I try to form to myself an idea of the veins, and circulation of blood, in those animals whose bodies

are said to be a million of times smaller than a grain of sand, I feel, most sensibly, the weakness of the faculties of my soul. Now, as nature rises from the infinitely small to the infinitely great, is it wonderful that I cannot discover the true principles of it? But, suppose God had given us knowledge and sagacity enough to take in the whole chain of the universe, so that we might penetrate the inward recesses of nature, and distinctly discover all its laws, what would be the consequence? It is true, we should have an opportunity of admiring, in its full extent, the wisdom of God in his plan of the world; but this admiration would not last long. Most men, from their inconstancy, admire things no longer than while they appear above their conception. If we had a clear distinct idea of the whole system of the creation, perhaps we should think ourselves capable of forming a plan like it. In a word, perhaps we should not be sensible of the infinite distance between the Creator and us, and, consequently, not give him the glory due unto him. We have, therefore, no reason to complain of our imperfect knowledge of nature. We ought rather to bless God for it. If the nature of things was more known to us, perhaps we should not be so touched with gratitude towards God as we are at present; perhaps we should not have so much pleasure in the contemplation of his works. But, at present, that we

have only learned the first rudiments of the book of nature, we feel, not only the greatness of our Creator, but our own insignificance. Each observation, each discovery we make, fills us with new admiration of his power and wisdom. We more and more wish to reach those blessed regions, where we shall have a more perfect knowledge of his works.

MARCH XVIII.

USE OF VEGETABLES.

WHEN I consider the great number and variety of vegetables, I discover in this circumstance, as in every thing else, the beneficent views of my Creator. What, indeed, could he propose by covering the earth with so many different herbs, plants, and fruits, but the advantage and happiness of his creatures? There are so great a number, and such variety of plants, that they already reckon above thirty thousand species of them, and, every day, there are new species and new classes found. Their increase is infinite. For example, who would not be astonished, that a single grain of wheat should produce two thousand others, and that a single seed of poppy should multiply to such a degree, that in two or three years, a whole field

might be sowed with it. Can we suppose, that God had not the advantage of his creatures in view, when he ordained this prodigious increase of plants. There can remain no doubt of the Creator's intention, if we consider the use made of vegetables from the remotest times. Do not plants and fruit furnish us every day with the most wholesome nourishing food? Do we not mostly owe our cloaths, houses, and furniture, to the vegetable world? There is no part of plants that has not its use. The roots furnish medicaments: They serve for food and fuel; to make pitch, dyes, and all sorts of utensils. Of wood they mak coal, buildings, fires, medicines, paper, dyes, and a vast number of instruments. The bark even has its utility in medicine, in tanning, &c. The ashes serve to manure and improve the ground, to bleach cloth, to make saltpetre, and they make use of pot-ash in dying things. Rosin is useful to painters. Pitch and tar are made of it. They make use of turpentine in medicine; hard rosin to varnish, to solder, to rub the bow-strings of musical instruments, in order to make them more sonorous; and they use mastic in perfumes. Flowers please and delight, both by their colour and smell. They serve as medicine, and are particularly useful in furnishing bees with wax and honey. The fruits, which ripen by degrees, serve for our food, and are eaten either raw, baked, dried, or pre-

served. But vegetables are not for the use of man alone. They are of still greater use to animals, most of which have no other food. The reason there are so many fields, and so great a variety of herbs and plants, is, that all the different animals may find their proper food.

Where, O heavenly Father! can expressions be found to celebrate thy goodness? Who can reckon all the blessings the vegetable world affords us! It is at least manifest, that all the arrangements thou hast made, in this respect, tend to the use of all thy creatures. Thou hast provided for the wants of every individual. Thou hast assigned to each, the plant properest for its food and preservation. There is not a plant upon earth that has not its purpose and use. What sentiments, therefore, of gratitude and veneration ought we not to feel for thy beneficence.

MARCH XIX.

THE CONSTRUCTION OF THE HUMAN HEART.

WITH what wonderful and inimitable art is that musculous body constructed, which is situated in the cavity of the breast, and is called the heart? Its form is something like an obtuse pyramid; and it is so placed, that the point inclines a little to the left side. Its substance appears to be a series of fleshy fibres interwoven with infinite art, in such a manner, that the external fibres extend from the left side of the heart towards the right, and the internal fibres from the right side towards the left. This intestine has within it two cavities, called ventricles, separated from one another by a fleshy partition. In that there is a vein which conducts the blood of the upper parts of the body into the right ventricle of the heart; another which brings back the blood from the lower parts into that same cavity; an artery which sends it from thence into the lungs; another vein through which it runs from the lungs into the left ventricle, from whence it is sent over the whole body through the great artery. On the one side of the right ventricle is a sort of musculous bag, which is called the auricle of the heart, and which receives the blood before it

as entered the right ventricle. Another auricle, not less useful, hangs at the left ventricle, that the blood may stop there during a new contraction. All the blood passes through the heart. It continually goes in and out; and by the contraction of this intestine, it is sent into every part of the human body, and circulates through all the veins. When even all the other members of the body are at rest, the heart is in perpetual motion, from the first moment of life to the last. In a state of health, the heart contracts itself at least 60 times in a minute, and consequently 3600 times in an hour; and at each beating of the pulse, it throws out about two ounces of blood. The force it must use to do so is not small. For in order to throw out the blood, so that it should reach only as far as two feet in the great artery, the heart must resist a weight of 900 stone; and consequently in 24 hours, a resistance of sixteen million stone-weight.

All these things are equally admirable and incomprehensible. They lead us to cry out with wonder and astonishment, how great is our divine Creator! Who can describe his glory!

MARCH XX.

THE CHANGE OF SEASONS.

IN the warmest climates, as well as in the coldest, there are but two seasons in the year really different. The coldest countries have Summer about four months; during which, the heat is very great, occasioned by the length of the days: Their Winters last eight months. Spring and Autumn are scarce perceptible there; because, in a very few days, an extreme heat succeeds an extreme cold; and, on the contrary, the great heats are immediately followed by the most severe cold. The hottest countries have a dry and burning season for seven or eight months. Afterwards comes rain which lasts four or five months; and this rainy season makes the difference between the Summer and Winter. It is only in temperate climates, that the four seasons are really different in the year. The Summer heats gradually decrease, so that the autumnal fruits have time to ripen by degrees, without being hurt by the cold of Winter. In the same manner in Spring, the plants have time to shoot, and grow insensibly, without being destroyed by late frosts, or too much hastened by early heats. In Europe, these four seasons are most perceptible; and particularly in Italy, and

in the south of France. By degrees, as we advance towards the north, or towards the south, the Spring and Autumn are less marked. From the middle of May to St. John's day, it rains less frequently; after which, the violent rains return, and continue to the end of July. The months of February and April are generally very uncertain weather. If the melted snow and rains remained on the ground, without falling away and evaporating, the water would annually rise to the height of a foot and three quarters in most countries. This change of seasons deserves our admiration. It cannot be attributed to chance; for in fortuitous events there can neither be order or constancy. Now, in every country throughout the world, the seasons succeed each other with the same regularity as the nights and days, and change the appearance of the earth precisely at the appointed time. We see it successively adorned, sometimes with herbs and leaves, sometimes with flowers, sometimes with fruit. Afterwards it is stripped of all its ornaments, till Spring returns, and in some degree revives it. Spring, Summer, and Autumn provide food for men and animals, in giving them abundance of fruits, and though nature appears dead in Winter, that season is not without its blessings; for it moistens and fertilizes the earth, and by that preparation makes it fit to produce its plants and fruits in due season.

MARCH XXI.

SEVERAL THINGS WHICH APPEAR TO BE OF NO USE.

IF there is a wise Providence which governs the world, it seems as if it should extend even to the minutest things, and the most trifling events, in order that nothing should be without its manifest use. But, how many useless things are there in the world! The north wind blasts and disperses the blossoms of the trees. They wither and are useless. Seeds, which might have produced new plants, perish without yielding fruit. Innumerable multitudes of insects are not only useless, but are even hurtful to man, to beasts and to vegetables. Many men and animals do no more than shew themselves upon the earth, and suddenly disappear. Others are born deformed and monstrous, or become impotent. How many faculties and talents are lost, for want of an opportunity to make use of them! How many good projects and useful undertakings fail, before they arrive at maturity! Could all this be, if a Being infinitely wise governed the world? Whoever *dare* question God and his providence, have they, then, a sufficient knowledge of all things, and their connection with each other, to be able to say, with certainty: This answers no purpose: this is absolutely useless? Let us never

forget how weak and limited our understandings are. Our duty is to keep a respectful silence; to adore, and not to criticise the works of the Lord, who has given so many proofs of his wisdom, in an infinite number of things, the use of which are well known to us. Let us all so consider, that a thing may be useful in different ways, but that, while it serves one purpose, it cannot, at the same time, serve another. The insect, which in its infancy becomes the prey of the swallow, cannot certainly produce a new generation. The efforts made by the alchymist to find the philosopher's stone have not succeeded in the making of gold: But the insect is at least useful, in serving as food for the swallow; and the attempts of the chymist have, at least, obtained for us that fine porcelain we enjoy at present. Our tears cannot soften the severe and cruel man, who abuses his power to oppress the weak; but though our intercessions in favour of a miserable person prove useless, yet our tears will not be lost: They serve to keep up the sensibility of our hearts; and there is a Being who will gather those precious tears, to fill the crown which will one day adorn the head of the merciful. Let us, therefore, never think there is any thing in the world entirely useless. There may indeed be certain things, which appear not to answer quite the purpose intended: but they serve nevertheless the purpose proposed by God, and in the

very way he determined on. There may also be cases, in which God appears not to have attained the end he proposed. In order that certain things may take effect, and realize, it may perhaps be necessary that others should in some measure fail, or be defective. But, if it be incontestible, that true wisdom does not merely attend to the present, but carries his views to futurity; if God is infinitely wise, and that his wisdom must be shewn to the world as in a glass, there must necessarily happen certain things, which, considered separately, appear not to fulfil their design thoroughly, because they cannot do it but in connection with others. The share that these things have, in the execution of the whole plan, may be so imperceptible, and so little known, that they entirely escape our observation. But it does not follow from thence, that they do not in reality contribute to it. We must, on the contrary, conclude that God would not be infinitely wise, and that he could not act on a well formed plan, if there did not often happen things which appear to us useless. This persuasion will contribute much to our peace and happiness. Every day there happens in nature, and in the course of human life, events, the cause and connection of which appear to us incomprehensible, and which we should be sometimes tempted to think useless and without design. It is natural we should find very thing disagreeable and distressing which

could weaken our confidence in God. And, the more we are convinced by reason, by daily experience, and by the promises of the gospel, of the goodness of God, and the wisdom of his government, the more content and tranquil we shall be, either in prosperity or adversity. It will then no longer be difficult to acknowledge, that, in all which God does, or permits, he proposes to himself ends infinitely wise, which are always in one way or another beneficial to mankind. He has never been mistaken in the government of the universe. All he does, all he permits, is still justified by the event. Let us then refer it to his wisdom, and ever trust to it, without having the temerity to criticise his dispensations

MARCH XXII.HARMONY BETWEEN THE MORAL AND PHYSICAL
WORLD.

THE wisdom of God has ordained there should be a great affinity between the world and its inhabitants, to shew that the one was manifestly made for the other. There is a connection and perfect harmony in all the Creator's works. Human na-

ture and the surface of the earth have very near relations to each other, and a striking analogy. As the bodies of plants and animals form, grow, arrive at maturity, and perish, so are men subservient also to this law of nature. As there is a great diversity of climates and soils, some barren, and others fruitful, so is there an equal variety in the minds, talents, and faculties of men. Such has been the plan of the Creator; and there is in this variety more goodness and wisdom than we think of at first sight. Far from appearing defective, we should find it all perfection, if we had a thorough knowledge of things. If any body was tempted to object to God's not having given the same faculties, the same degree of understanding to all mankind, we might answer, Who art thou, blind and weak mortal, that dar'st to question God on what he has done? Shall the creature say to the Creator, Why hast thou made me thus? We might as well ask, why God has not ordained that all the kingdoms and countries on earth should be equally agreeable and fruitful? Why in certain places the soil is rich and fertile, while in others it is so barren and ungrateful, that all attempts to improve it are thrown away? Let us not doubt that this difference is very right, and worthy our admiration, though it is not always conformable to our way of thinking. The most barren and desert countries have their use and

beauty in the eyes of the Creator. It is the same in respect to the most savage and uncultivated nations. All hold their proper place in the immensity of created beings. But, as it is evidently the intention of divine Providence, that the earth should be cultivated, and produce abundance of fruits for the preservation of men and animals, as, it is for the same purpose that God has given us the corn to sow in the ground; so also, and with more reason, does his wisdom require, that human nature should be cultivated; and that our souls should be made fruitful, and enabled to reap the excellent harvest of virtue and piety. It is with that design that he has given to mankind lessons of true religion, which, if they find a soil well disposed to receive them, produce exquisite fruit, like the corn which is sowed in fertile ground. From thence it is, that the gospel also can have no efficacy in the world, but in proportion to the noble faculties of men, and the disposition with which they receive it.

There are still in our days, vast countries, barren and uncultivated, although Providence denies them nothing that they require to make them fruitful. It is thus, that, notwithstanding the publication of the gospel, there are still so many people who remain in ignorance. Even amongst the most polished nations of Christianity, the efficacy of the gospel is unequal, and will ever be

so, according to the diversity of character to whom it is made known. Some do not comprehend it, and have no sense of the salutary virtue of the truths of our holy religion. Others receive those truths with eagerness and joy, but those impressions do not last. With others, the passions and cares of the world stifle the divine word. And lastly, some (but it is the smallest number) receive it with an honest and upright heart, with wisdom, with conviction and sincerity. It is for them alone, that it becomes "the power of God unto salvation."

M A R C H XXIII.

THE NATURE AND PROPERTIES OF AIR.

AIR is that fluid and subtle body which surrounds all our globe, and which every living creature breathes. Although it is so near us, that it surrounds us on all sides, and that we continually experience its effects, we do not however know its real nature. What we do know is, that air must be something corporeal; for we may be convinced of it, when we move our hands quick, and drive it towards our face. It is not less certain that air is fluid; that its parts are separate, pass easily one over another, and by that means yield to every impres-

sion. If it was otherwise, if it was a solid body, we could neither breathe nor pass through it. Weight is a property common to that, as to all other bodies. Although air is a thousand times lighter than water, its weight is nevertheless very considerable. The force with which air weighs in any surface of a foot square is two thousand pounds. A man six feet high, whose surface is about fourteen feet square, supports continually a mass of air of 280 stone weight. This perhaps may appear incredible. But the resistance of the air which is in our bodies prevents our feeling the weight of the outward air; for the air contained in the human body preserves the balance with that which surrounds us on all sides. The elasticity of the air is no less certain. It continually endeavours to extend itself into a larger space; and though it can be compressed, it never fails to burst forth as soon as the pressure is removed. Fire and heat shew this property in the air; and by these means it may occupy a space of five or six hundred thousand times greater than what it had occupied before, without losing any of its elastic force by this prodigious dilatation.

These are so many wonders well worth our admiration; and in them we find the cause of a multitude of astonishing effects. It is air which supports our globe, and keeps it in its orbit. It is in the air that the clouds meet, which assume so

many different forms and colours; and which, according as they are condensed or rarefied, collect the vapours, or shed them in rain, hail, or snow, upon the earth. Without air, we could not breathe. Therefore the air also proclaims the rich resources of God's wisdom, as well as his goodness and mercy.

M A R C H XXIV.

THERE IS NOTHING NEW UNDER THE SUN.

IT is certain, that in respect to us, there happens many new things upon earth. Nature causes new flowers to blow every season, and other fruits to ripen. The scene of nature changes every year. Each day brings new events and new revolutions. The situation of objects change daily, or rather present themselves to our senses under different forms. But it is only relatively to our limited understandings and knowledge, that it can really be said, there is any thing new under the sun. Nothing is more certain than the saying of Solomon, that, "what has been, will be, and what has been done will be done, and there is nothing new under the sun." God, whose wisdom is infinite, has not thought proper to

multiply beings unnecessarily. There are as many as our wants, our pleasure, or our curiosity require. We cannot even gain a superficial knowledge of all the works of our Creator; much less are we able to exhaust them. Our senses are not subtile enough to perceive all that God has formed. Our understandings are too weak to conceive a just and perfect idea of all created beings. We therefore sometimes imagine there are many new things under the sun; for as the whole creation is immense, and as we cannot take in all the parts of it at once, we fancy, that each point of view we see it in for the first time, is new, because the Creator has, in every part of the world, made a wonderful variety and diversity. The world does not require a continued creation to extend to infinity. It is enough that the Being of beings should maintain the order he has established from the beginning. God is an artist who requires but a small number of springs to vary the works he has produced; and which are, however, so varied, and in so great a number, that though they succeed one another, and return with the greatest regularity, they appear to us ever new. Let us be content to enjoy with gratitude the things he has created, without undertaking to sound the depth of them, or attempting to take in their vast extent. The impossibility of our reckoning all the works of the creation, is, in

some sort, the seal by which we may conclude that the world is the work of a God; and it is, at the same time, a certain proof of the weakness of our understandings. But have there not been discoveries made lately, which were formerly entirely unknown? Do not all the kingdoms of nature now present phenomena to us that we had no idea of formerly? The most of these discoveries we owe less to our sagacity than to our wants. In proportion as these multiplied new means were necessary to supply them, and Providence designed to furnish us with those. But the means existed before we discovered them. The minerals, plants, and animals, which we have lately learned to know, existed in the bosom of the earth, or on its surface, before the enquiries and labour of man had made them visible to us. It is certain, even, that many of the discoveries we boast the most of, were not made by the ancients, or at least but partly discovered? If the world was the work of chance, we should now and then see new productions: why then do we not see new kinds of animals, plants, and stones? It is because all has been planned by the infinite wisdom of God. All that he does is so perfect, that it does not require to be renewed or created again; there is sufficient for our convenience and use. Nothing was made by chance. All events have been determined by infinite wisdom, and are linked together in one chain. The whole

fabric of the universe is preserved by the providence of its Creator, and by the concurrence of laws both general and particular. All is stamped with wisdom, order, and greatness.

MARCH XXV.

CAVES IN THE MOUNTAINS.

CAVES are generally found in mountains, and seldom, or not at all in plains. They are formed as the precipices are, by the falling in of rocks; or like the abyfs, by the working of fire. Caves therefore may be produced by the same causes which produce the quaking, opening, and falling in of the earth; and these causes are the explosions of volcanos, the action of subterraneous vapours and earthquakes: for they make disorder, and throw down buildings; which must necessarily form caves, holes, and openings of every sort. But why are these caves? Of what use are they? Suppose even that we could discover no use in them, we ought still to be convinced, that they were, formed for very wise purposes. As there is nothing on earth uselefs, can we suppose caves are of no use? But it is not difficult to shew

that they are really very useful. The waters collect there, in order to be afterwards spread over the earth, and to moisten it when the rain fails. The caves in the mountains keep up the course of the waters in the subterraneous channels. As soon as that circulation is stopped, there comes shocks and earthquakes ; which spread terror and desolation over our globe. The air contained and confined within the earth, escapes thro' dens and caves. These openings therefore are necessary, that the air may penetrate into the mountains, to give a passage to the winds, and a vent to exhalations ; for if the openings in caves do not admit a free circulation, the air contained in them would corrupt, or would lift up and shake the earth. Those caves often fill with waters, from whence rivers and lakes are afterwards formed. Such is the lake *Zernith in Carniole*, which fills at certain times, and at others dries up, or is lost under the neighbouring mountains in such a manner, that it is sometimes navigable, and at other seasons may be ploughed. How many animals would perish, if the mountain-caves did not serve them for asylums and retreats during winter ? If there were no caves, we should be deprived of several minerals, and many other useful productions, which cannot be formed, or become perfect, but in some subterraneous caverns. We see then, that even in this respect, the wisdom and

goodness of our Creator is manifest in a sensible degree. We have a new proof of that great truth, that there is nothing useless in nature, nothing too much, nor any thing which is not done with wisdom, and for the general good. The more we employ ourselves in these researches, the more we shall adore the sublime perfection of God.

MARCH XXVI.

CIRCULATION OF THE SAP IN TREES.

THE trees which for several months appeared quite dead, begin insensibly to revive. Some weeks hence we shall discover in them still more signs of life. In a short time the buds will swell, will open, and produce their precious blossoms. We have it always in our power, to observe this revolution regularly in the beginning of each Spring; but perhaps have been hitherto ignorant by what means it operates. The effects we observe in Spring, in trees, and other vegetables, are produced by the sap, which is put in motion in the stalks of the trees, by the air and increase of heat. As the life of animals depends on the circulation of their blood, so also the life and

growth of plants and trees depend on the circulation of sap. For this purpose, God has formed and disposed all parts of vegetables, so as to concur towards the preparation, preservation, and circulation of this nourishing juice. It is chiefly by means of the bark, that the sap in Spring rises from the roots into the bodies of trees; and even conveys throughout the year, all the nourishment to the branches and fruit. The wood of the tree is composed of small long fibres, which extend in a direct line the whole length of the tree to the top; and which are very closely joined together. Amongst these fibres there are some so small and fine, that one of them, though scarce as thick as a hair, contains more than eight thousand little fibres. There are a multitude of little veins to contain the nourishing juice, and to make the circulation easy. These veins extend to the other branches, and rise up the whole length of the tree to the top: some conduct the sap from the root to the top of the tree, and others bring it down from the top to the bottom. The sap rises up the ascending veins in the heat of the day, and comes down the others again in the cool of the evening. The leaves serve for the same purpose, and their chief use is to make the sap circulate; not only that which proceeds from the root, but also what the tree receives outwardly by means of dew, the moisture of the air, and rain. This

nourishing juice is spread through every part of the tree. But it could not rise through the stalks if there were not openings in them at top. It is through these pores that the watery parts of the sap evaporate, while the oily, sulphureous, and earthly parts mix together to nourish the tree, to transform into a substance, and give it a new growth. If the juice does not reach it, if the circulation is stopped, if the interior organization of the tree is destroyed, whether by too severe cold and frost, by age, or by any wound or outward accident, the trees dies.

After these reflections can we see with the same indifference as formerly, the trees at this season? Will the change there is going to be in them, appear so little worth our notice? and can we observe the renewal of all nature, without thinking of God, who gives life to every creature; who provides the juices analogous to trees, who communicates to the sap the power of circulating through the veins, and from thence of giving to trees life, nourishment, and growth; May this new existence, which the vegetables receive at this lovely season, be the signal to awaken and lead us to virtue.

M A R C H XXVII.

OUR IGNORANCE OF OUR FUTURE FATE.

IF we are ignorant of future events, we must not seek the cause of it merely in the nature of our souls, the faculties and knowledge of which are very limited ; but also in the express and infinitely wise will of the Creator. He knew the strength of man, and he would not give him more knowledge than he could bear.

Knowledge is to the soul what the light of the sun is to the eyes: A too great splendor would hurt, without being of use. It would be very dangerous to the virtue of man, if he had the faculty of foreseeing what was to happen to him ; for outward circumstances have generally some influence on the way of thinking, and in the resolutions we form. Therefore, the more we knew of future events, or the more temptations we should have to surmount, the more should we have to fear for our virtue. How wretched also should we be, if we could see into futurity. Suppose, in reality, that the future events were to be agreeable and happy : While we do not foresee this greater happiness which awaits us, we enjoy with gratitude the present advantages we possess. But draw the curtain, and discover an agreeable prospect of futurity, and we cease from that moment

to enjoy the present. We should no longer be content, happy, or grateful. We should anxiously and impatiently expect the fortune designed us; and our days would pass one after another without enjoying them. But suppose future events are to be sad and melancholy, we suffer before-hand all the afflictions as soon as we foresee them. Days which might have passed agreeably, in peace and quiet, if the future had been concealed from us, are, as soon as we know it, spent in anxiety, in sorrow, and in the sad expectation of a certain evil. In a word, the idea of the misfortunes reserved for us, would prevent our enjoying present happiness, and would make us insensible to it. How great, therefore, is the wisdom and goodness of God, in having thrown a veil over futurity, and only letting us know our fate by degrees, as the destined events happen to us! Let us never wish to anticipate the happiness which awaits us, nor to feel the weight of evils before they happen. Let us, on the contrary, every time we think of futurity, bless God for having, by this ignorance, spared us so many cares, fears and sorrows. Why should we wish to see through the veil which covers futurity? If we deserve it, we may be certain, that all future events, be they agreeable or otherwise, will infallibly contribute to our real welfare. And is it

not a merciful and gracious God who directs all events, and who rules futurity? He sees at once the whole course of our lives, not only the past, but even what is to come, as far as eternity itself. When we lie down to sleep, let us recommend ourselves to his care without troubling ourselves about what may happen in the night; and when we awake, let us trust in him, without being anxious for the events which may mark the day. In the midst even of the dangers with which we are surrounded, and the misfortunes which threaten us, let us remember the goodness of God; let us put our trust in him, and never doubt, that he will either remove them, or turn them to our advantage.

M A R C H XXVIII.

THE INSENSIBLE APPROACHES OF NIGHT.

AS the night is in itself one of the Creator's favours, so it is a wise and beneficent dispensation that it only comes on by degrees. A sudden transition from the light of day to the darkness of night, would be both inconvenient and frightful. So sudden a change would occasion a general interruption to the labours of man, which, in certain affairs, necessary to be finished, and which do not admit of delay, would be extremely prejudicial

All nature, men and animals, would be seized with fright; and, in this sudden transition from light to darkness, it would be impossible that the organs of sight should not suffer very much. Darkness, therefore, does not come upon us of a sudden; it advances slowly; and the twilight, preceding night, leaves us time to finish our most pressing business, and to make the necessary arrangements. By this means, the coming of the night does not disturb or incommode us, and we are warned in time to prepare for it. But, from whence proceed those remains of light, which, at the end of each day, in some degree, temper and soften the melancholy appearance of night? We no longer see the sun, and yet a part of its mild lustre still reflects itself. Let us, in this, admire the wise and beneficent plans of nature. The atmosphere, which surrounds us, has been so formed as to do us this essential service. The rays of the sun, which fall on the upper parts of the air, do not run in a direct line, but they bend, and this bend leads them where their first direction would not have carried them. The atmosphere, having thus bent and turned back, a great number of rays, which otherwise would not have reached us, reflects them afterwards to our sight, and by this means, we enjoy light much longer, and the time for labour is considerably prolonged.

It is thus that a gracious Providence has planned, not only the great revolutions of seasons, but also the daily transition from light to darkness, in the manner most advantageous to us.

M A R C H XXIX.

MAGNIFICENCE OF GOD IN HIS WORKS.

WH Y is there such splendor in the works of God? Why is there such magnificence in all we see? Why do we discover, on all sides, such numberless objects, which appear each more beautiful than the other, and each of which has its peculiar charms? Why do we, every where, find new cause for wonder and admiration? It is, doubtless, that we never cease to admire and adore the great Being, who is infinitely more beautiful, more sublime, and more magnificent, than all we admire most in nature. It is, that we may continually say to ourselves: If the works be so complete, what must the Creator be? If such is the beauty of creatures, what must be the inexpressible beauty, the infinite greatness, of him who beholds with one glance the whole creation? If the sun has a dazzling brightness, which our eyes cannot bear, ought we to be surprized, that he who

lighted that globe dwells in inaccessible light, where no eye has seen, or can see him? Should he be less wonderful than the beings he has formed? The more wonderful his works are, the more he himself must raise our wonder and admiration. If we could thoroughly comprehend his greatness, he would not be a God, or we should not be men. How then can we better enlarge our minds, and lay up a richer treasure of ideas, than in contemplating that God, whose greatness and magnificence is unlimited? Is it not in such contemplation, that the faculties of our souls may best acquire that force and energy, which will make us capable of enjoying infinite happiness? The more extensive our knowledge here, and the more our minds are enlarged in the contemplation of the greatest of all beings, so much the more we shall be able to enjoy him in a future state. Let us, therefore, always divide our attention between God and nature, but only in order to consider in the latter, as in a glass, the image of that Being whom we cannot contemplate face to face. Let us collect the many beauties and perfections, which are scattered over the vast empire of the creation; and when their innumerable multitude strikes us with astonishment, we shall say to ourselves, that, compared to the perfections of their Creator, they are less than a drop in the ocean. Let us only consider what is amiable and fine in

created beings abstracting what is finite and limited, in order to form a more just and proper idea of the excellence of the Ruler of the universe ; and, when the faults and imperfections of his creatures may have lessened our admiration of their beauty, let us cry out ; If the creation is so beautiful, notwithstanding its defects, how great and worthy of admiration must he not be, whose splendor is spotless, more pure than light, more brilliant than the sun !

M A R C H XXX.

THE ARRANGEMENT OF THE SEASONS IN THE OTHER
PLANETS.

THE diurnal rotation of the earth round its own axis, and its annual course round the sun are great advantages to us. Does it not therefore authorise us to presume, that the other planets have equal advantages ? Most of them turn on their own axis ? and it is very probable, that it is the same with respect to Mercury and Saturn, though we cannot observe their motion. All the planets move in their orbits round the sun ; and even the secondary planets take the same course round their

chief planets. Now, as the motion of our earth produces the constant vicissitudes of day and night, and the change of seasons, it is very apparent, that the same thing happens in the other planets. Venus turns round on her own axis in the space of 23 hours and a half. Mars finishes his revolution in 24 hours and a quarter; Jupiter in ten hours, and the Moon in 28 days. If then we divide the day, that is to say, the time during which this revolution is made, if (I say) we divide it as we do with respect to our earth, in 24 equal parts, each of which is called an hour, the hours of Venus will be a little shorter, and those of Mars a little longer than ours. As for those of Jupiter, they will not be half as long as those of the earth. If the Moon is 28 days in moving round its axis, a whole day and more must be in that planet what an hour is in our globe. It is also to be remarked that the position of the axis of the planets is inclined, like that of our earth; from whence it naturally follows, that during their course round the sun, their northern side is sometimes more, sometimes less enlightened. Is it not therefore probable, that in all the planets, the revolutions of seasons and the alternate length and shortness of days, takes place as on our earth? But it may be asked to what purpose all these reflections? They would be useful, if they only served to increase our knowledge:

But they will appear still more important to us, if we think of the consequences resulting from them. May we not conclude from those, that the other planets also are inhabited by living creatures? All the planets are like the earth. They are alike warmed and illuminated by the sun. They have their night and day, their Winter and Summer. To what purpose would all this be, if those worlds were not inhabited? What an idea does not all this give us of the greatness of our Creator! How immense his dominion! How impossible to know all the wonders of his power and goodness! When we reflect on all those worlds, where his glory shews itself as much, and perhaps more than on our globe, we must be struck with astonishment, and adore him with sentiments of the most profound veneration.

M A R C H XXXI.

P A T E R N A L C A R E S O F P R O V I D E N C E F O R T H E P R E -
S E R V A T I O N O F O U R L I V E S I N E V E R Y P A R T O F T H E
W O R L D .

WE know at present a great part of our globe, and new regions of it are still discovered from time to time. But no place has yet been found, where nature did not produce some of the necessa-

ries of life. We know countries where the sun burns up almost every thing, where little is to be seen but mountains and sandy desarts; where the earth is almost entirely stripped of the verdure with which it is so richly adorned in our climates. There are countries which are scarce ever cheared by the rays of the sun, and where its beneficent warmth is rarely felt; where an almost continual Winter benumbs every thing; where there is neither culture, fruit, nor harvest. And yet there are men and animals there, who do not fail of subsistence. The productions denied them by Providence, because they would have been burnt by the sun, or frozen by the severe cold, are supplied by gifts more suitable to those climates, and on which men and animals can feed. The inhabitants seek with care what nature has in store for them. They know how to appropriate it to their own use: And they thus procure for themselves all they require for their subsistence and convenience of life. In Lapland, Providence has so contrived, that an evil, in some respects very inconvenient to the inhabitants, becomes a means of their preservation. They have an innumerable multitude of gnats, who by their stings are a plague to the Laplanders, and from which they cannot guard themselves, but by keeping up in their cottages a continual thick smoke, and daubing their faces with pitch and tar. These in-

lay their eggs on the water, and by that means draw a great number of aquatic birds who feed on them; and being afterwards taken by the Laponefe, become themselves the chief food of those people. The Greenlanders generally prefer animal food to the vegetable; and it is true there are very few vegetables in that barren country. There are however some plants in it which the inhabitants make great use of; for example, sorrel, angelica, and particularly the spoon herb, *cochlearia*. But their chief food is the fish which they call *ang-marset*. After they have dried it in the open air upon the rocks, it serves them every day instead of bread or greens; and they preserve it for Winter in great leather sacks. In Iceland, where there is no agriculture, owing to the severe cold, the people live on dried fish instead of bread. The Dalecarlians who inhabit the north of Sweden, having no wheat, make bread of the bark of birch and pine, and a certain root which grows in marshes. The inhabitants of Kamfchatca feed on the stalk or trunk of the bear's-foot plant, which they eat raw after they have peeled it. In Siberia, they make much use of the roots of mountain lily.

Can we enough admire and revere the divine wisdom, which has given us bodies so formed as not to be confined to such or such particular food, but to be able to make use of every kind of nourishment! Thus, by a goodness, which cannot be

too highly praised, "man does not live by bread alone, but by the word of God also." That is to say, on all that God ordains, on all things to which he has given the virtue of food and sustenance.

A P R I L I.

ABUSE OF ANIMALS.

SO improper an use is made of animals, and in so many ways that it would be difficult to enumerate them. These abuses however may be confined to two chief points; that of too much, or too little value being set on them; and, in either case, we act contrary to the intention of the Creator. On one hand, we lower the brutes too much, when under pretence of being permitted the use of them by God, we assume an unlimited power over them, and think we have a right to treat them according to our caprice. But how can we prove that we have that right? And suppose even that we had, would it be just that our power should degenerate into cruelty and tyranny? All who are not corrupted by passions or bad habits, are naturally inclined to compassion towards every being that has life and feeling. This disposition un-

doubtedly does honour to man, and is so deeply engraved on our minds, that any one, who had rooted it out, would prove to what a degree he was degraded and fallen from the dignity of his nature. He would have but one step more to make, (to refuse to man the compassion he does not grant to beasts) and he would then be a monster. Experience but too well justifies this remark, and many examples of it may be recollected. History furnishes us with them. We see by it, that nations, where the people took pleasure in bull-baiting, distinguished themselves in cruelty towards their fellow-creatures. So true it is, that our treatment of beasts has an influence on our moral characters, and on the gentleness of our manners. It may be said that we have a right to destroy hurtful animals.—I confess it: But does it follow from thence that we are authorised to take from them, without pity, or regret, a life which is so dear to every creature; and that, when necessity forces us to it, we should find a barbarous pleasure in it, or think we have a right, in thus depriving them of life, to make them suffer torments, often more cruel than death itself? I grant that the Creator has given us the animals for our use and pleasure, and that they are designed, by their labour to spare ours. But does it follow, that we may unnecessarily fatigue them, exhaust them with labour beyond their strength,

refuse them sustenance merited by their services; in fine, aggravate their sufferings by severe treatment? But no more need be said, in regard to this kind of abuse. Men fall sometimes into the other extreme, by setting too high a value on animals. Those of a social character, which are more connected with us, which live in our houses, which amuse or are useful to us, inspire us often with an extravagant and ridiculous affection. I am almost ashamed to say, there are men and woman extravagant enough to love those creatures to such a degree, as to sacrifice to them, without scruple, the essential duties they owe to their fellow creatures. Let war be kindled between nations; let armies destroy one another; the news will not make the least impression on a lady, who some days before was inconsolable for the loss of her spaniel. How much might be said on this: but I wave it, in order to conclude these reflections by a very important remark. Parents, and all who have the charge of children's education, or who live with them, cannot be too attentive to avoid scrupulously themselves any abuse of animals. It is the more necessary to dwell on this maxim, because in general it is much neglected; and very bad examples of this kind are given to children which has sometimes influence upon their whole education. No beast ought to be killed in their sight: Much less

should they be employed to do it. Let them be taught to treat animals, as beings which have life and feeling, and towards whom we have duties to fulfil. But on the other hand, take great care that children do not attach themselves too much to animals, or grow passionately fond of them, as they are apt to do. In guarding carefully against childrens' making a bad use of animals, either way, they should also be taught to make a good use of them, that they may, from their earliest age, be accustomed to acknowledge, even in those creatures, an impression of the perfections of the Creator.

A P R I L II.

THE MOTION OF THE EARTH.

WHEN the delightful prospect of the rising sun renews each morning in our souls the gratitude and admiration due to the sublime Author of the universe, we may at the same time observe, that the place in which this magnificent sight is beheld changes with the seasons. To be convinced of this with our own eyes, we need only examine the place where the sun rises in Spring and Autumn; we shall perceive it afterwards in Summer more to the north, and in Win-

ter more to the south. We shall reasonably conclude from thence, that some motion must be the cause of these changes ; for we cannot see a body of any sort change its place, without being occasioned either by its own motion, or that of another body. We are naturally led to think that it is the sun which moves, as we see it sometimes on one side, and sometimes on another. But, as the same phenomena would take place, supposing the sun to remain immoveable, and that we with the earth were turning round it, we ought to depend less on our own conjectures, than on the repeated observations made by astronomers upon this subject, which prove the motion of the earth. Let us, in the first place, represent to ourselves the immense space in which the celestial bodies are placed. It is either empty, or filled with a substance, infinitely subtle, called *æther*. In that space it is that our globe floats, as well as all the other planets which compose our solar system. The sun, the dimensions of which have been mentioned already, is placed in the centre, surrounded by its worlds, which it surpasses greatly in size. The weight which our globe has in common with all other bodies, draws it towards that centre, or else the sun draws the earth, by the power which the greater bodies have of attracting the lesser. Thus, each time the earth inclines to move from the sun, it is drawn back again. It

moves in a circle round itself, in the same manner as we have seen a sling turn round ; or, to make use of an example still more analogous, like a cannon ball, which describes a curved or crooked line. It is true, it falls again on the ground, after having gone over a certain distance ; but, perhaps, it would continue the same line the same space of some miles, if it had been sent off from the top of a high mountain. Suppose a still greater height, it would go farther in proportion. Add still to that height, and it would go as far as our Antipodes, to return at last to the point from whence it set out. All these effects would take place from the laws of gravitation, or the attractive power of our globe ; and it is in the same manner that this earth describes its orbit round the sun. This orbit is not a perfect circle, but an ellipsis, which occasions our being farther from the sun at one time than at another. In making the course round the sun, it takes 365 days, 5 hours, 48 minutes, and 43 seconds, the space of time which is the measure of our year, after which revolution we find the sun again in the same place. For, in each point of the orbit of the earth, the sun appears to us at the opposite side of the sky, so that at every insensible motion of the earth, we fancy it is the sun that moves. In Spring the sun is seen equally distant from the poles : This causes equal nights and days. In Summer it is 23 degrees 30 minutes nearer the

north, which occasions our longest days. In Autumn it returns to an equal distance between the poles. And, in Winter, it removes as far towards the south, as it had approached the north; and it is then that our days are the shortest.

If such is the order and plan of the great work of the creation, how much reason have we to admire and adore the supreme wisdom and goodness of the Creator! How precious to us ought every new acquired knowledge to be, that discovers to us the Father of all nature by his works.

A P R I L III.

THE IMMENSE RICHES OF NATURE.

TO be convinced of the extreme liberality with which Nature dispenses her gifts, it would be sufficient to reflect on the prodigious number of human creatures, who receive their food, their raiment, and every pleasure they enjoy, from that beneficent mother. But as this is perhaps one of those things which, because they happen every day, no longer make the impresson they ought to make upon our hearts, we will turn our reflections on creatures which are partly made for our use;

and some of which are become objects of our contempt. This meditation will teach us that all the beings spread over our globe proclaim the goodness of their Author, and incite us to glorify his name, if our hearts are susceptible of any feeling. An innumerable quantity of living creatures, inhabitants of the earth, the air, and the waters, are daily indebted for their subsistence to nature.— Even the animals which we take care to feed, properly speaking, owe their food to her. The grass which grows without being sown is their chief food. The whole race of fish subsist without man's assistance, unless those which he feeds for his amusement. The forests likewise produce acorns, the fields and mountains produce grass without culture. Amongst the birds, the species the most despised, and perhaps the most numerous, is the sparrow. Their number is so prodigious, that the King of France, with the produce of all the fields in his dominions, would be too poor to feed them for the space of one year. It is nature who takes from her immense magazine what is necessary to support them; and yet they are but the smallest part of her children. The quantity of insects is so great, that perhaps many ages may pass away before their several species and classes can be known. What numbers of flies are there, and how many different sorts of them do we see playing in the air? The blood the gnats take from us is very acci-

dental food to them, and it may be supposed, that for one gnat who lives on it, there are millions who have never tasted human blood, or that of any animal whatever. On what do all those creatures live? There is not a handful of earth which does not contain living insects. In every drop of water, creatures are discovered, whose means of support, as well as their multiplying, are incomprehensible. Immensely rich as nature is in living animals, so is she equally fruitful in means for their subsistence; or rather, it is the Creator who has poured into her bosom this inexhaustible source of riches. Through him each creature finds its food and dwelling. It is for them he causes the grass to grow, leaving each to choose its proper food.

A P R I L IV.

SUN-RISE.

HAVE you ever been a witness of the superb phenomenon which the rising sun each day affords? Or has idleness, the love of sleep, or a faulty indifference, prevented you from contemplating this wonder of nature? Perhaps you may be ranked amongst the multitude of people who never thought a sight of the Aurora worth the sa-

sacrifice of some hours sleep. Perhaps you are like many others, who, satisfied with the light of the sun, do not trouble themselves with enquiring into the cause of this great effect. Or lastly, perhaps you are as insensible as millions of your fellow-creatures, who have it in their power to behold this glorious object every day, see it without being struck with it, or without its raising any idea or pleasing reflection in their minds. It matters little in which of these you rank. Suffer yourself only to be now at last roused from this state of insensibility, and learn what thoughts the sight of the morning sun ought to excite in your soul. There is no phenomenon in nature more beautiful and splendid. The richest dress that human art can invent, the finest decorations, the most pompous equipage, the most superb ornaments in the palaces of kings, vanish and sink to nothing when compared to this beauty of nature. At first, it is the eastern region of the sky which is clothed in the purple of Aurora, and announces the sun's approach. The air by degrees takes the bloom of a rose, and then shines with the lustre of gold. Afterwards, the rays of the sun pierce through the mist, and with them light and heat are spread over the whole horizon. At last the sun appears in all the splendor of majesty. It rises visibly higher and higher, and the earth assumes a different aspect. Every creature rejoices, and

seems to receive new being. The birds, with songs of joy, salute the source of light. Every animal begins to move; and they feel themselves animated with new strength and spirits.

Behold! all nature proclaims order and harmony. The sun and all the stars run their course. Each season yields its fruits. Each day renews the splendor of the sun. Who would, in the midst of the active creation, be the only one to neglect praising his Creator, by proving his virtue and faith? Rather let our pious zeal teach the infidel, how great, how worthy of adoration that God is, whom he despises. Let the tranquility of our souls, and trust in him, teach the vicious how mild and merciful that God is, before whom he justly trembles. Let us be toward our fellow-creatures what he is to us. Let us be to them what the sun is to the whole universe. As it sheds daily its benign influence on the earth; as it rises for the ungrateful as well as the righteous; as it shines on the humble vallies, as it does on the highest mountains; so let us make our lives useful, beneficent, and a comfort to others. Let each day increase the charitable disposition of our hearts. Let us do good to all, according to our abilities, and without respect to persons. In a word, let us endeavour to live and act, so that our lives may be a blessing to mankind.

A P R I L V.

WONDERFUL CONSTRUCTION OF THE EAR.

THE ear, it is true, in respect to beauty, must give place to the eye. However, it is perfectly well formed, and is no less a master-piece of the creative hand. In the first place, the position of the ear shews much wisdom. It is placed in the most convenient part of the body, near the brain, the common seat of all the senses. The outward form of the ear is worthy our admiration. It greatly resembles a muscle; but has neither the softness of mere flesh, nor the hardness of bone. If it was only flesh, its upper part would fall down over the orifice, and would prevent the communication of sounds. If, on the contrary, it had been composed of hard bones, it would be very painful and inconvenient to lie on either side. For this reason, the Creator formed the outward part of the ear of a gristly substance, which has the consistence, the polish, and the folds, most proper to reflect sounds; for the use of all the external parts is to collect and convey them to the bottom of the ear. The interior construction of this organ must still more excite our admiration. There is in the shell of the ear an opening, which they call the *auditory pipe*. The entrance of it is furnished with

little hairs, which serve as a bar, to keep insects from penetrating into it ; and, it is for the same purpose that the ear is moistened with a substance that is conglutinous and bitter, which separates itself from the glands. The drum of the ear is placed obliquely in the auditory pipe : This part of the ear really resembles a drum ; for, in the first place, there is in the cavity of the auditory pipe a boney ring, on which is stretched a round membrane, dry, and thin : In the second place, there is, under that skin, a string stretched tight, which does here the same service as that of the drum, for it increases, by its vibrations the vibration of the drum of the ear, and serves sometimes to extend, and sometimes to relax the membrane. In the hollow, under the skin of the drum, there are some very small bones, but very remarkable, called auditory bones, and distinguished by these names : The hammer, the anvil, the orbicular, and the stirrup. Their use is, to contribute to the vibration, and to the tension of the skin of the drum. Behind the cavity of the drum, another opening must be observed, which communicates with a pipe which leads to the palate, and which is equally necessary to produce the sensation of exterior sounds. Next comes the *snail*, which rises in a spiral line. Behind is the auditory pipe, which joins the brain.

Hearing is in itself a thing worthy of admiration. By a portion of air, extremely small, which we put in motion, without knowing how, we can in an instant make our thoughts known to one another, with all our conceptions and desires, and this in as perfect a manner, as if our souls could see into each other's. But, to comprehend the action of the air, in the propagation of sounds, more clearly, we must remember that the air is not a solid body, but a fluid. Throw a stone into a calm running water, there will result from it undulations, which will extend more or less, according to the degree of force with which the stone is thrown. Let us now suppose, that a word produces in the air the same effect as the stone produces in the water. While the person who speaks is uttering the word, he expells (with more or less force) the air out of his mouth; that air communicates to the outward air which it meets, an undulating motion, and this agitated air comes and shakes the stretched membrane of the drum in the ear; this membrane, thus shaken, communicates vibrations to the air, which resides in the cavity of the drum; and that strikes the hammer: the hammer, in its turn, strikes the other little bones; the stirrup transmits to the nerves through the oral orifice, the motion it has received; and they then vibrate like the strings of a fiddle. This motion gains strength in the labyrinth, and reaches to what is called the audi-

tory nerves. The soul then experiences a sensation proportionable to the force or weakness of the impression received, and, by virtue of a mysterious law of the Creator, it forms to itself representations of objects and of truths.

God, in order to make us more sensible of his general goodness towards mankind, permits now and then, that some should be born deaf. Must it not teach us to value highly the sense of which they are deprived? The best way to prove our gratitude for so great a blessing is to make a good use of it.

A P R I L VI.

THE MILKY WAY.

WHEN we examine the sky at night, we perceive in it a pale and irregular light over our heads; a certain quantity of stars, whose mixed rays form this light. This apparent cloud, or luminous tract is commonly called the milky way. These stars are too far from us, to be perceived separately with the naked eye; and between those which are visible through a glass, there are spaces discoverable, which, to all appearance, are filled by an im-

menſe quantity of other ſtars, which even the telescope cannot make viſible. It is true, that the number already diſcovered is prodigious; but if we could make our obſervations on another ſide of the globe, from a part nearer the antarctic pole, we ſhould then make ſtill more diſcoveries; we ſhould ſee a great number of ſtars which have never appeared on our hemisphere. And even then we ſhould not know half; perhaps not a millionth part of the radiant bodies which the immenſe expanſe of the heavens contains. The ſtars which we ſee in the milky way, appear to us no more than ſhining ſpecks, yet they are much larger than the globe of the earth. Whatever inſtrument we make uſe of, they ſtill appear as before. If an inhabitant of our globe could travel in the air, and could attain the height of 160 millions of leagues, thoſe bodies of fire would ſtill appear only like ſhining ſpecks. However incredible this may ſeem, it is not a chimerical idea, but a fact which has actually been proved; for, towards the tenth of December we are more than 160 millions of leagues nearer the northern part of the ſky than we ſhall be the tenth of June; and notwithſtanding that difference, we did not perceive any difference of ſize in thoſe ſtars. This milky way, ſo inconfiderable in compariſon of the whole ſpace of the heavens, is ſufficient to prove the greatneſs of the ſupreme Being; and every

star discovered in it, teaches us the wisdom and goodness of God. What are those stars in comparison of the immense quantity of globes and worlds which roll in the firmament! A late ingenious astronomer, by help of a telescope of remarkable power, has discovered beyond conjecture this account of the milky way, and says, "That
" even our sun, and in consequence our whole
" solar system, forms but a part of the radiant
" circle. Many small specks in the heavens, un-
" seen by mortal eye, he discovers to consist of
" myriads of stars; being, as he supposes, entire
" systems of themselves. Here reason stops and is confounded: To admire and adore is all that remains for us to do.

A P R I L VII.

REFLECTIONS ON THE SEEDS OF PLANTS.

THE vegetable kingdom, to an attentive observer of the works of God, is a school where he learns the profound wisdom, and unlimited power of that supreme Being. Though we were to live an hundred years upon earth, and could devote every day to the particular study of one plant,

there would still remain at the end of that time, many things we either did not observe, or were not capable of perceiving. Let us reflect on the production of plants: Let us examine their interior construction, and the formation of their several parts: Let us consider the simplicity and variety of them, from the blade of grass to the highest oak: Let us try to learn the manner in which they grow, in which they propagate, in which they are preserved, and the different uses they are of to men and animals. Each of these articles will sufficiently employ the mind, and make us sensible of the infinite power, wisdom and goodness of the Creator. We shall every where discover, with admiration, the most astonishing incomprehensible order, and the most excellent design. Though we were to know no more of plants, than those phenomena visible to every eye; though we were only to know that a grain of corn sown in the ground, shoots first a root down into the earth, and then shoots upwards a stem, which bears blossoms, branches, leaves and fruit; and wherein are contained the seeds of new plants: This alone would be sufficient to prove the wisdom of the Creator. Let us consider for once, with attention, all the changes which a grain of wheat goes through: We sow it in the ground at a certain time, that is all we can do. But what are the operations of nature, after we have thus left it to itself? As soon as

the earth supplies it with sufficient moisture, it swells and bursts open the outer coat, which had till then concealed the root, the stalk, and the leaves. The root pierces through, and sinks deep into the earth; and prepares nourishment for the stem, which makes efforts to rise even with the earth. When it has arrived at this, it grows by degrees till it has attained its proper height. It opens its leaves, which at first are white, then yellow, and at last tinged with green. If we confine our observations to this grain of wheat alone, which is so necessary to our subsistence, what wondrous wisdom do we not discover in it! As soon as the outer skin is burst, and the root has shot into the earth, the stem ventures to spring up in the form of a very slender stalk; yet, weak as it appears, it is already strong enough to bear the intemperance of seasons. By degrees it grows up, and becomes an ear of corn, the sight of which is so pleasing to mankind. The wheat is enclosed with leaves, which serve as a coat for it till it is strong enough to break through them, and is armed with points to defend it from the birds.

The fields of corn, ought naturally to make us remember those fields where God lays up another seed. The human bodies deposited in the earth, are as seed sown, whose destination is to grow, and ripen for the harvest of eternity. We had

as little reason, on looking at a grain of wheat, to expect it to produce an ear of corn, (though the essential parts of it were in the grain,) as we have to believe that our bodies reduced to dust, will one day become glorified bodies.

A P R I L VIII.

THE BLUE COLOUR OF THE SKY

TO judge simply by our senses, we might imagine the sky over our heads a great vault painted blue, and the stars so many little brilliant nails stuck in it. It is true, that such an idea could hardly be formed but by the common people and children; yet there are many people who think themselves superior to those, who form very absurd notions of the sky, and its blue appearance by day. The reason of it is, that our atmosphere is not quite transparent. If we were raised very high above the surface of the earth, we should find that the air becomes more and more subtile the higher we go, till we could no longer breathe in it, and at last it would end in pure ether.—The higher we climb on mountains, the more light the atmosphere grows and the more pale the bright azure of the sky appears. If we could

rise as high as pure ether, this colour would be entirely lost. The sky would seem to us as black as at night; for all objects that do not transmit to us any rays of light appear so. Consequently, if the air that surrounds us was as transparent as ether, the sky would not appear blue to us. Our air is full of little particles, which, when lighted by the sun, receive a motion, which produces new rays, and these particles, though dark in themselves, become visible to us when lighted up. Their colour is blue. This is the reason that a forest when we are near to it looks green, but as we move farther from it, looks more and more of a bluish colour. However pale and slight the blue rays of air may be, there falls so great a quantity of them on our eyes, when we are in the open air, that the effect resulting from them is rather a dark blue. These reflections may make some consider the sky differently from what they had done before. It may from hence be concluded, that, to the very colour of the sky, there is no phenomenon in nature, in which we may not discover order, utility, and a wise purpose. As the colour of green is the best that the Creator could have chosen for the ornament of the earth, so is the fine azure blue of the sky the most calculated to charm the eye. How dreadful is the appearance of the sky when covered with stormy clouds! but what beauty, majesty, and simplicity in the colour of it,

when the weather is calm and serene ! The apartment of kings, decorated by the most skilful painters, are nothing when compared to the majestic simplicity of the celestial vault. When the eye has any time contemplated the beauties of the earth, it fatiates and is tired ; but the more we contemplate the heavens, the more charms we find in it.

A P R I L IX.

USE AND NECESSITY OF AIR.

AIR is the element to which all this lower world owes its life, beauty, and preservation. All the changes we observe in the different beings our globe contains, depend on air. It is absolutely necessary for the preservation of animals ; for most of them would die in half a minute, if they were deprived of it, and the others could not support the want of it above two days at most. Not only terrestrial creatures, and those which fill the air, require that element, but it is absolutely necessary also to the inhabitants of the water ; and what is more, they require a change of fresh air as much as other animals. The birds, in order to fly, must be supported by the air ; for which

reason their lungs have openings, through which the air they breathe passes into the whole cavity of their bellies. This single circumstance discovers to us a profound sagacity; for the body of the bird being filled, and in a manner swelled by the air, becomes lighter, and more fit for flying. Plants, even, in order to vegetate and grow, require air, and have therefore a multitude of little vessels, which serve to draw it in, and by means of which even the smallest particles of them are provided with all the necessary juices. Nothing would be more easy, than to multiply proofs of the necessity of air. Let us dwell on one single circumstance only, which demonstrates it very clearly. If there was no air, there would be no twilight before sun-rise. It would come suddenly above the horizon; would appear the same as it does towards the middle of its course, and would not vary its appearance till the instant it would vanish entirely from our sight, leaving us in as total darkness as at midnight. The sun, indeed, would strike our eyes with a bright light if there was no air; but it would resemble a great fire burning in an open country in the middle of the night. It would in some sort be day, as the sun and the objects immediately surrounding us would be visible to us, but all the rays that would fall on any bodies, at a certain distance, would reflect in a direct line, and be lost in the extent of

the heavens. Therefore, while the sun would be placed directly over our heads, we might still be in a sort of night, if there was no air between that globe and us. Let us draw together all the advantages that air is of to our earth.—It is of use to the life and breathing of living beings; to the motion of winged animals, and those which swim in water; to the propagation of sounds: to hold the earth in equilibrium with the other globes, to the formation of vapours, rain, and winds. How necessary is it also to make the earth fruitful, to favour the vegetation of plants, and disperse the bad vapours which exhale from different bodies! The sun could not furnish us with either heat or light enough, if our globe was not surrounded with air. Nobody could be heard, if the air did not set the organs of speech in play; if it did not transmit sounds, and act on the organs of hearing. How innumerable, then, in all respects, are the advantages which the air and winds procure to mankind. If we accustom ourselves to contemplate with an attentive mind, the great object of the creation, we shall be naturally led to extol the works and the blessings of God. What may often make us neglect this duty is perhaps our casting but a superficial glance over his works; and, in enjoying his blessings, our hearts have not always been sensible how little we deserved them. Let us then, for our peace and our hap-

pinels, endeavour to become, attentive and sensible spectators of the works of God : For to those who consider them thus, they become sources of pure and permanent joy.

A P R I L X.

DIFFERENT SOILS OF THE EARTH.

THE soil is not the same every where. The upper strata, is generally formed of a black moveable rich earth, which being moistened by broken remains of plants and animal substances, becomes the nutritive support of millions of vegetables, which enrich our globe. But even the strata varies in quality. It is sometimes sandy and light, sometimes clayey and heavy, sometimes moist, sometimes dry, sometimes warmer, and sometimes colder. This is the reason why some herbs and plants grow naturally in certain countries, and require art and culture in others. The variety of soil also makes vegetables of the same kind differ in quality, according to the ground where they have been planted. In this instance we again discover the wisdom of our Creator. If all soils were alike, if all were of the same quality, we should be deprived of many vegetables; because

each species requires a soil analogous to its nature : Some require a dry soil, some a moist one ; some require heat, others a colder soil ; some grow in the shade, others in the sun ; several grow on mountains, and many more in vallies. From thence it happens, that each country has a certain number of plants peculiar to it, and which do not grow in equal perfection in others. Let the alder be transplanted into a sandy soil, and a willow into a rich and dry earth, and it will be found, that those soils are not fit for these trees, and that it will agree with them better to plant the former near marshes, and the latter on the borders of rivers. Therefore our Creator has provided for each species, by allotting to them the soil analogous to their internal constitution. It is true, that art can sometimes force nature to produce according to pleasure ; but it is seldom worth the trouble ; and in the end nature is found to have much the advantage of all the researches and labours of art.

The same variety that is observed in the soil of our globe, is found in the characters of mankind. There are some whose hearts are so hardened, that they cannot profit by instruction. No motive can influence ; no truth, however evident, can rouse them from their indolence. This character may be compared to a stony ground, which no climate, nor the most careful cultivation can render fruitful.

A character almost as worthless, is that where levity predominates: Persons of this sort, it is true, receive the salutary impressions of religion and piety, but are discouraged by the least obstacle that comes in their way: and their zeal vanishes as easily as their good resolutions. In the minds of trifling, timid, weak people, truth and virtue cannot take root, because there is no depth. They resemble light and dry soils, where nothing comes to maturity, and where every thing dries up, as soon as the heat of the sun is felt; because they do not supply the plant with the nourishing juices it requires. But how happy those characters, with whom, as in a good soil, the seeds of piety ripen and produce an abundant harvest of good fruit. On these several dispositions observed amongst men, depends more or less the effect the word of God has upon the heart. In vain the sower sows the best seed, if the soil has not the suitable qualities; all his care is in vain. The purity and goodness of the seed cannot supply the natural defects of the soil. For when it is so hard and close that the seed cannot enter, or so sandy that it cannot take root, or so full of stones that it is choaked up, it is impossible it should produce fruit.

A P R I L X I.

NECESSITY FOR REPOSE AT NIGHT.

LABOUR is without doubt necessary for man ; he must indispensibly apply himself according to his situation and condition ; and it is certain, that great part of the convenience and comforts of life depend upon it. But it must be allowed that human strength would soon fail, and that man would, in all respects, become incapable of making use of his limbs, and the faculties of his soul, if God did not continually supply him with the strength and activity necessary to fulfil the duties of his vocation. As we every day lose some of our juices, we should be soon exhausted, and fall into a mortal decay, by too great an exertion of our strength, if these spirits were not continually renewed and revived. In order to be able to labour, it is necessary that our blood should always supply us with a matter infinitely thin and active, called the nervous fluid. This fluid keeps the springs of the brain and muscles in play, and maintains the bodily action and motion. But the continual waste that is made of this matter would soon exhaust it, and man would fall into languor, if these losses were not repaired. Food would not digest, or spread itself regularly through the body,

if he was always in motion. The labour, therefore, of the head, the arms, or the feet, must be interrupted for a time, that the heat and the spirits, which spread over the exterior parts may be employed only in assisting the functions of the stomach, during the repose of the other parts of the body. Sleep does this important service. At the close of day, our strength, which has been exercising since the morning, begins to diminish. The vital spirits sink; the senses grow dull; and we are invited to sleep, without being able to resist. As soon as we give way to it, we are restored and refreshed. The operations of the brain, and the labours of the body, cease at once, and the fatigued limbs acquire new strength. This recruit is necessary to the body as well as to the mind. It makes our limbs more active and flexible, and preserves in a proper state all the parts of the body. It re-animates our intellectual faculties and spreads a serenity over our souls. How inexcusable then are those, who, for trifling reasons, for a vile interest, or to gratify their passions, deprive themselves of proper time for sleep! They not only disturb the order of nature, an order established only for their good, but they enervate the strength of their bodies, and bring on themselves a premature death. Why should we be mad enough to deprive ourselves of a blessing, which our heavenly Father, equally and impar-

tially grants to the rich and to the poor, the ignorant and the learned, the high and the low? Why should we shorten our days when a wise and good Providence has ordained sleep as a means to prolong life? Why voluntarily deprive ourselves of the refreshing repose which sleep procures us? Alas! there may come nights, in which, far from tasting its sweets, we may pass restless hours in a bed of anguish, and reckon the tedious and painful moments; and, perhaps, we shall never know the value of sleep, till we wish for it in vain.

A P R I L X I I .

SIZE OF OUR GLOBE.

IT is not as easy as we imagine to be certain of the size of our earth. There is indeed but one longitude, yet there are two latitudes, north and south. Both begin at the equator: The one extends towards the north, and the other towards the south, as far as the poles, either arctic or antarctic. But no one has yet been able to go as far as either pole, because the mountains of ice in Greenland, and in the northern seas, have always obstructed the passage. However, thanks to the geometers, we at present know nearly the size of our globe, and, according to the most exact calculations, the surface of the earth is nine millions, two hundred thousand and eighty-eight

square leagues. It has been calculated, that there may be, at least, three thousand millions of men upon the earth; but in reality, there are not more than one thousand and fourscore millions; of which there are,

In Asia 650 millions, In America 150 millions,
In Africa 150 millions, In Europe 130 millions.

If, then, we suppose the earth is inhabited by one thousand millions of men, or thereabouts, and that thirty-three years make a generation, it follows, that in that space of time, there dies one thousand millions. Thus, the number who die on earth amounts to,

Each year,	30,000,000
Each day,	82,000
Each hour,	3,400
Each minute,	60
Each second,	1

This calculation must necessarily strike us. If the mortality is so great every year, and even every hour, is it not probable that he who reflects on it may himself be one of those which swell the list of the dead? It is at least certain that it ought to lead us often to serious reflections. Now, at this moment, one of our fellow creatures is going out of the world, and before this hour be passed, more than three thousand souls will have entered into eternity. What a motive for thinking often and seriously upon death. Prodigiously great as the earth appears, its greatness vanishes at once, when

we come to compare this globe to the other worlds which roll over our heads. The earth is then, in comparison of the whole universe, what a grain of sand is to the highest mountain.

But, how does this thought exalt the Creator in our eyes! How inexpressible and infinite does his greatness appear. The world and all its inhabitants, are before him as a drop in the ocean, or as the atoms which float in the air.

A P R I L XIII.

GENERATION OF BIRDS.

AT this season of the year, there is a revolution in nature which certainly claims our attention. It is the time the birds lay, and hatch their young. This annual miracle passes in a manner before our eyes: and that it is really a wonder, which cannot be too much admired, the following reflections will convince us.—In each fruitful egg, which has not yet been sat on, there is a spot, (about the size of a freckle) visible in the yolk. In the centre of this spot, there is a white circle, like a thin partition, which extends a little towards the top, and appears to join to some small bladders there. In the middle of this circle, there is a kind of fluid matter, wherein the embryo of the chick is

seen to float. It is composed of two lines or white threads, which appear sometimes to be separated from one another at their extremity, and between which a lead coloured fluid is perceptible. The extremity of the embryo is contained in a little bag, surrounded by a pretty large ligament; and it is there that the navel afterwards shews itself. This ligament is composed partly of a solid yellowish substance, and partly of a fluid dark substance, which is also surrounded by a white circle. This is what has been observed in the egg before it is set upon. After it has been above twelve hours under the hen, there appears in the lineaments of the embryo, which is in the middle of the little spot, a moisture that has the form of a little head, on which are seen little vesicles, that afterwards become the back bones. In thirty hours the navel appears covered with a multitude of little vessels. The eyes also are then distinguishable. The two white threads, which in reuniting have still left some space between them, inclose five little bags, which are the brainy substance, and the spinal marrow, which goes through to its extremity. The heart is then visible: But it has not yet been discovered, whether it is the heart or the blood that is first formed. Be that as it may, it is certain that the embryo of the chick existed before in the egg; and that, after it has been some time set upon, they distinguish the back bones, the brain, the

spinal marrow, the wings, and part of the flesh, before the heart, the blood and the vessels are perceptible. At the end of 36 hours, the navel is covered with a number of vessels, separated from one another by unequal spaces. According to all appearance, they existed before in the little spot, and are only made visible by the fluid matter which swells them. When the essential parts of the chick are thus formed, it continues to take new growth till the twentieth or twenty first day, when it is able to break of itself the shell which had contained it.

We owe these discoveries to some great naturalists, who, with the assistance of microscopes, have observed, almost from hour to hour, the progress of the formation and the hatching of the chick. However, notwithstanding all that we have drawn from their observations, there still remains many mysteries, which may never be discovered to us. How does the embryo come into the egg? and who gave it the faculty of receiving, by means of warmth, (for that is all the hen communicates to it) a new life and being? What is it that puts the essential parts of the chicken in motion? and what is that vivifying spirit, which through the shell, penetrates even to the heart, and occasions its pulsation? What inspires the birds with instinct to multiply by a way common to them all? How do they know that their young are

contained in the egg? What engages them to sit on the nest all the time necessary to hatch them? Questions these are which cannot be answered in a satisfactory manner. But the little we know of the generation of birds is sufficient to prove the wisdom of the Creator; as it can neither be attributed to a blind chance, nor to art assisting nature. God had the wisest reasons for ordaining, that certain animals should not arrive at perfection till after they come from their mother's womb, whilst others reach their full maturity in it. And it may be allowed, that whoever does not discover the hand of God in the production of birds, will not see it any where; for if the profoundest wisdom is not visible in this, it will appear so in nothing.

O man! Spectator of the wondrous works of God, adore with me the all-wise Being. Do not disdain to seek, in apparently small objects, the impression of his goodness, his power, and his ineffable wisdom.

A P R I L X I V .

PROGNOSTICS OF THE WEATHER.

WINDS, heat, cold, rain, snow, fogs, drought, and other such alterations in the temperature of the air, do not always depend on causes regular

and necessary. There are, however, some signs in nature, which, in some degree, foretel the weather. The position of our globe, in respect to the sun, which is known to us in the four seasons of the year; the changes of the moon, the precise moment of which can be determined; the influence that those celestial bodies, and all the planets of our system have upon the heat, the cold, the motion, and the stillness of the air, are so many immutable laws, upon which may be established several prognostics of the weather. The consequences drawn from them are so much the less to be despised, as they are founded on experience, and that it is by the rules of analogy that the future is judged of by the past. It is true that a thousand accidental circumstances may occasion alterations which we had no reason to expect. But, it must be considered, that these accidental circumstances are of short duration, and if they occasion any change in the ordinary course of the temperature of the air, it is only for a little time, and in some particular places.

That, in general, the change of weather is so regular that it may be foreseen, is what our observation may prove to us every year. We are seldom mistaken in supposing that the north and east winds generally bring cold, the south heat, and the west rain; that during a north-east wind, it rains in Summer and snows in Winter. We may with equal probability conjecture, that, when the

morning sky is red, there will be wind or rain in the afternoon: And, that the evening red, when it is not copper colour, promises fair weather next day. The weather in Spring foretels what it will be in Summer. If there are many fogs in Spring, it is very likely that the Summer will be rainy. If there are great floods in Spring, there will be great heat, and many insects in Summer. When there have been storms in Spring, there is nothing more to fear from ice and night frosts.

But supposing it was utterly impossible to foretel the weather, we may be perfectly easy in that respect. The variations of weather (when considered in the whole) are, according to constant rules, laid down by Providence with much wisdom, and we may rest secure, that the weather, however bad it may appear, will nevertheless be advantageous to the earth, and promote its fertility. In every alteration of the climate, let us trust to that God whose purposes are always wise and beneficent, without whose will, there could be neither heat, cold, rain, drought, tempest, or calm, and who turns to the good of the earth, and of his creatures, even those phenomena which seem to be hurtful. Wisdom and beneficence are manifest in all his dispensations.

A P R I L X V .

THE SITUATION OF THE SUN.

GOD has appointed a situation for the Sun, which perfectly suits the nature of that body, and the uses for which it is designed. He has given it a certain size, and placed it in a space proportioned to the course it is to perform. He has put it at a proper distance from the planets, upon which it was to act; and this position, appointed for it so many millions of years ago, it still preserves, without ever deviating from it, because, in reality the least deviation would occasion the greatest disorders in nature. Most certainly nothing but unlimited power could perform such a wonder. God alone could produce this immense globe, place it in its proper sphere, mark its limits, determine its course, subject it to constant rules, and maintain it invariably in the position and order prescribed. What wisdom and goodness shines in this plan, both in respect to the whole universe, and to our earth in particular, with all its creatures? The burning rays, which proceed from a globe of fire a million of times larger than our earth, must have an inconceivable force, if, in falling, they were to remain close to one another; but as they separate more and more, in proportion as they remove to a distance from their common centre, their power diminishes, in propor-

tion as they diverge. Our earth, placed in a spot where those rays would have been too numerous, or too near, could not have born the intense heat. Placed towards the extremes of the solar world, it would only have received a faint light, and too little warmth to ripen its fruit and productions. The Sun is then in the exact spot it ought to be. It can now communicate to our world sufficient light and heat to penetrate into, and to vivify the earth with its beneficent rays, to clear the atmosphere, and to produce all those effects without which there would be neither dew nor rain, snow, hail, fogs, clear or serene days. Placed as it is, it causes the regular changes of day and night, as well as the different seasons of the year, and varies in each of them its influence or effects.

It is not only to the Sun, but also to the other planets, to the fixed stars, and all the bodies which belong to our system, that God has allotted a place conformable to their nature, and suitable to the end he proposed in creating them.

A P R I L XVI.

PERMANENCY OF CORPOREAL BEINGS.

NOTHING in nature perishes: and, from the beginning of the world to the present moment, there has not been a grain of sand, nor an atom

annihilated. The first forests, which the powerful word of God produced, were adorned with an innumerable multitude of leaves. Those fell, withered, corrupted, and ceased to be leaves, but the parts which composed them still remain. They have been converted into dust, mud, or earth; but they are not annihilated. The matter of which the first leaves and herbs were formed, subsists still at this day, and has lost nothing of its essential parts. The plants which now flourish will exist, as to their parts, as long as the world shall last. The wood we burn ceases indeed to be wood, but its parts do not cease to exist. They are dispersed into ashes, soot, and smoke, but they are not annihilated. The kingdom of nature is liable to continual change; all dissolves, and all regenerates, but nothing finally perishes. Let us not judge by appearances. When there happens any revolution any disorder in nature, we are apt to believe that many things are totally destroyed: It is an error. They are only differently modified, and become materials for the composition of other beings. The water which rises in vapours does not perish; it decreases in one place to increase in another. What uninformed persons consider as total destruction, is in reality, but a mere change of parts; and the world, considered in the whole, is just now what it was the first day of the creation, although a multiplicity of parts which compose it, have gradually undergone very considerable alterations.

This leads me to reflect on my own body, and the change it will experience in the grave. It is true it will entirely corrupt, but it will not be annihilated, and the essential parts which compose it will always subsist. The persuasion of this truth is sufficient to guard me against the fear of the grave and corruption, and at the same time, to confirm the hope of a resurrection in my soul. Why then should my heart be troubled, why shudder at the thought of the grave? That which will be shut up there, it is not me; it is my earthly habitation. I myself cannot be destroyed. All my members are numbered, and will be preserved. *What I have been, I shall be hereafter*; and I shall live for ever and ever.

The continual duration of corporeal beings may lead me to conclude, with much probability, that my soul also will be immortal. Since none of the earthly parts will be annihilated, is it to be presumed that my soul should be the only created thing that is to be destroyed? No. The whole corporeal world would sooner perish than one soul redeemed by Jesus Christ.

A P R I L XVII.

THE USE OF RAIN.

IN the truest sense of the word, rain ought to be called a present from heaven. The blessings our heavenly Father pours upon us by this means, are

equally abundant and necessary for us. As the consequences of a continued drought would be fatal to us, so the advantages are equally precious which the refreshing showers afford. Who can describe or know all the advantages which accrue from them. But if we cannot give an exact account of them, we may at least reflect on some of the most considerable. The heat of the sun acts without interruption on the different bodies on the earth, and continually exhales thin particles from it, which fill the atmosphere in the form of vapours. We should breathe those dangerous exhalations with the air, if now and then they were not carried off by the rain, which beats them down to the ground, and thus clears and purifies the air. It is no less useful in moderating the burning heat of the atmosphere; and the reason is very evident: For the nearer the air is to the earth, the more it is warmed by the refraction of the rays; and the farther it is from us, the colder it is. The rain that falls from a higher region, brings to the lower atmosphere a refreshing coolness, of which we always feel the agreeable effects when it has rained. It is also to the rain we must partly impute the origin of fountains, pumps, lakes, and consequently rivers. Every body knows in what abundance we are supplied with these several sources of water in the wet and rainy seasons; whereas they evaporate during a long drought. But to feel how useful and neces-

sary rain is, it is sufficient to observe how the earth and vegetables languish for want of these fruitful showers, without which every thing would decay. Rain is in many respects the food of vegetables. It wets and softens the earth, which is dried up, and in a manner petrified by the heat of the sun. It circulates in the finer veins, and in the vessels of plants and trees, and conveys to them those beneficial juices which preserve their life and give them growth. When it pours on mountains, it sweeps from them a soft rich earth, which it deposits in the vallies where it falls, and which it manures.

God has planned all with wisdom, and the earth is full of his goodness. Such is, without doubt, the conclusion that we must all draw from these reflections. And if from these we are led to adore and bless him; let us pursue the subject, that it may make a deeper impression on our minds.

What finer object can be presented to our sight than a clear and serene sky! Is not that beautiful vault extended over us sufficient to fill every heart with admiration and delight? But all the beauties of the sky would disappear, if by the direction of the winds, the clouds should come and draw a thick curtain before us. What are the sentiments such a revolution would create in us? These are at least what it ought to inspire:—However beautiful this scene which we contemplate

with such delight, there are some incomparably greater, which no cloud can deprive us of, and which would make us ample amends for the loss of all others. For what are all the beauties of nature compared to the beauty of that great Being, in whose contemplation alone an immortal spirit can find felicity ! It is not without design, that God sometimes deprives us for a while of those things which give us most pleasure. He wishes to teach us to seek our happiness in him, and to consider him as our sovereign good. Besides, those very privations are they not often compensated by many outward advantages ? Those clouds which conceal from us the beauty of the sky, are the sources of beneficent rains, which render the earth fruitful. Let us remember this ; and every time that adversity makes our days gloomy and melancholy, let us be persuaded, that even these misfortunes will become, in the hands of our heavenly Father, instruments of future happiness. Let us also consider rain as the image of the gifts of fortune : For beneficial as moderate rains may be they are equally hurtful if they last too long, or come unseasonably. So it is in respect to earthly goods. Their too great abundance might be the cause of our destruction. Let us therefore thank our heavenly Father for refusing us gifts, which we might afterwards find to be real punishments. Let us then learn to be content with all the dispensations of a wise and gra-

cious Providence in the government of the world. God only can know the manner in which his blessings can best be bestowed. He sendeth forth his commandments to the clouds, and they fly to execute the will of their Creator. Shall man dare to undertake to direct their course, though perhaps the least considerable part in the ordinance of the world? How then can we be rash enough to blame the ways of Providence on much more important occasions?

A P R I L XVIII.

THE BREATH.

OF all the functions of animal life, breathing is one of the principal and most necessary: without it, there would be no possibility of expelling the saliva and excrements, or getting rid of superfluous humours by perspiration. Even speech, and the several inflexions of the voice, require breathing. It is of use to the smell; to mix properly the chyle with the lymph and the blood; to give to the latter its red colour; and perhaps also to keep up and renew the animal spirits, by the air mixed with the blood. It is certain that we could not live an instant if we were deprived of breath. But from whence proceeds this source of life? Our lungs are, properly speaking, the organs by which we draw in and let out air. This intestine

resembles a large purse, at the top of which is fastened a pipe, thro' which the air penetrates into a number of little vessels of different sizes, which form the interior texture of the lungs. When the air is pumped into the lungs, the belly swells, the sides rise, and the lower part of the sternum comes forwards. During the expiration, on the contrary, the lower part of the belly sinks in; the sides sink, and the sternum withdraws towards the back. That this mechanism may be conveniently executed, the Creator has disposed the interior parts of the body in the wisest manner. More than sixty muscles are continually in motion to procure breath, by dilating and contracting by turns the lungs. Nothing can be more admirable than the windpipe. It is covered with a valve, which closes it exactly at the moment of deglutition, and prevents by that means the food from passing into it, or an interruption of breathing. There are not less wonders observable in the lower parts of this organ, in the branches of the windpipe, in the vesicles of the lungs, in the distribution of the veins and arteries, which every where accompany the bronchial veins, and the vesicles; in order that the blood they contain, may receive on all sides the impression of the air.

It is our duty to bless our Creator, that after having given us the faculty of breathing, he has by his goodness hitherto preserved our breath. A thousand accidents might happen, to interrupt,

and totally stop this faculty of breathing. How many things might enter into the windpipe while we eat and drink ; or, even in our sleep, which would be instant death ? But have we felt all the gratitude due for these continual marks of goodness ? Breathing is one of those blessings we enjoy every instant, without, perhaps, remembering that it is to God we are indebted for it. And if we accustomed ourselves to be more attentive to the particular and daily blessings, we should also contemplate with more delight the whole of his works, and be more sensibly affected by them.

A P R I L X I X .

PROOFS WHICH THE WORKS OF THE CREATION FURNISH US OF THE GOODNESS OF GOD.

THE most common and most important phenomena which we see on the earth, or in the air, tend evidently to the service and good of the animal world. All that we see around us, over our heads, or under our feet, serves for our support and enjoyment. What is more necessary for the preservation of life than food ? The ground is therefore covered with it. Grass, roots, fruit, for the support of man and beasts, are spread over the surface of the whole earth, in such a manner, that there is scarce a place where animals cannot

find their proper food. God has not even confined himself to the supplying our wants and sustenance only, he has deigned to furnish us also with what is agreeable and convenient. If nothing more was required than merely supporting life, water and the most common roots would be sufficient. But with what liberality has the Creator furnished us with the greatest variety? Such is the munificence of God towards every living creature. There is scarce a shrub upon the earth, a plant, an herb, a piece of water, or a marsh, that does not serve for dwelling and food to some living creature. On a tree, for example, there are besides fruit, leaves, bark, and wood. Each of these feeds an innumerable multitude of creatures. Caterpillars feed on leaves. Certain worms live on the bark. Others neglect the leaves and bark to lodge in the wood. Thus, through all nature, there is scarce any thing that is not useful to some living creature. What must therefore be the beneficence of that God, who forgets not any Being made by his hand, nor disdain to watch over them, and supply their wants? What is there more pleasant than the light of the sun. Its rays fill all the immense expanse of the heavens; and, as long as day lasts, the eye partakes of this universal good, and enjoys the delightful and varied scene of the creation. Light discovers to us all the riches of the divine works. Without it nature would be to us a desert, and

its innumerable beauties would be for ever unknown to us.

With what goodness has God provided for the advantage of our senses? For example, he has chosen the mildest and properest colours to please and refresh the sight. Experience proves, that blue and green reflect the rays which least hurt the eye, and they are what we can longest bear. For that reason divine goodness has clothed the sky with blue, and the earth with green, two colours which agree with them. They are lively and gay enough to strike us agreeably, and yet mild enough not to fatigue or offend the sight. They have, however, variety of shades, enough to distinguish objects from one another, and prevent a too great uniformity. Besides, plants of very different greens, the earth produces the most beautiful flowers, which not only delight our eyes with a thousand and a thousand different colours, but embalm the air also, and please our smell with the most delicious perfumes. Even the ear is not idle. It is charmed to hear the songs of the birds, who fill the air with their melodious notes.

Therefore shall God's beneficence be for ever the object of my meditations. My soul shall never cease to bless him.

A P R I L XX.

P L E A S I N G E F F E C T O F T H E H E A T O F T H E S U N .

AT the approach of Spring, there are revolutions before our eyes, which must fill every attentive observer with astonishment. Nature gradually recovers the life she seemed to have lost in Winter. The earth is cloathed with verdure. The trees are covered with blossoms. On all sides are seen new generations of insects, and other animals, coming out rejoicing in their existence, and endowed with a thousand different instincts. Every thing is animated. Every thing revives. And this new life, which appears in the noblest parts of nature, is produced by the return of warmth, which awakens animals and plants, and puts their renewed strength in motion. We owe this admirable revolution to the sun, which is the source of life, sensation, and joy, as its salutary and enlivening rays are spread over all nature. The seeds feel its effect, and open in the bosom of the earth. It is from thence that the plants and vegetables shoot, spring up, and grow. Its approach revives and strengthens animals. Every living creature that has breath or feeling, vegetation also, feels the benign influence of that immense globe. If we were deprived of the light and heat of the sun, how melancholy would the face of the earth appear? Into what a lifeless state

would most creatures fall, and how wretched and languid would such existence be? What a source of joy and gladness would the heart of man be deprived of if he could not enjoy the rays of the rising sun, or the light of a serene day! Nothing could compensate for the loss of it. The mildest night, the gentlest artificial warmth, could not supply the place of that vivifying virtue, which the sun communicates to every being, and which has a salutary effect very different from that of earthly fire. Men and animals know and feel it. A valetudinarian shut up warm in his room, with every possible assistance, will not gain as much strength in many weeks, as he would in a very short time from the warmth of the sun in the fine weather of Spring. Plants forced in hot beds never gain such a degree of strength and consistence as those which grow in the sun. In the latter, every thing combines for the perfection of plants and animals; whereas, in artificial heat, we see nothing but the weak and languishing efforts of an ineffectual substitute. But would the sun exist, and could it communicate light and heat to us, if God, the Creator of all things, had not formed it and given it the power of shedding over the whole earth its quickening virtue? It is from him we receive all the blessings which are derived from the sun. It is he who created it, who rules its course, and who preserves its light and splendor. Each morn he causes it to appear again, and in

each season makes us feel its happy effects. Let us then raise our souls to him, as Creator of the sun. Its beneficent warmth, its beautiful and clear light, leads us to the Being of beings, the source of every blessing, the Father of light. The Pagans were too blind to acknowledge God as author of the sun. They stopped at the effects, without knowing the cause. But we know there would be no sun, if he did not exist; that it would neither give light nor heat, if not ordained by God. We know that vegetation, increase, growth, all the blessings which surround us, all our agreeable sensations, all that charms or delights us proceed from him. The sun is but the instrument of his goodness, the minister of his will, the herald of his greatness.

A P R I L XXI.

RELATION THAT ALL CREATURES HAVE WITH ONE ANOTHER.

THE prodigious number of creatures there are upon the earth is, in itself, well worthy our admiration; but what must still more strike us, is the proportion between all these, and the wise chain which links this infinite multitude of different beings in such a manner, that they form but one regular and perfect whole. The extent of the animal creation is incomprehensible, and yet

all of them find food sufficient. No species however few, there are of them; no individuals, however persecuted they may be, are ever extinct. It is true, that many serve as food for others, but the number of beasts of prey, is not considerable. Most of them are solitary, and do not much multiply. Those even that are pretty numerous are content with little food, and cannot obtain it without much art and trouble. Several of them have enemies which prevent them from multiplying too fast; or else the weak and timid animals supply in number what they want in strength, and escape their persecutors by all sort of stratagems and cunning. It is also observable, that, for the preservation and multiplication of species, there is an exact balance between the sexes, so that there is no animal which cannot find its mate. The mineral kingdom serves for the preservation of the animal, and they both tend to the good and benefit of mankind. The most useful plants, such as corn, grow every where, multiply the easiest, and are the least liable to spoil. The animals which are most necessary to mankind are scattered every where in abundance. The productions of the different climates are suited to the particular wants of mankind. Thus, the hottest countries abound in cooling fruits. In countries liable to a great drought, there are plants and trees, which are, in a manner, springs of water, and which provide enough to quench the thirst of men and ani-

mals. Where wood is wanting, there is a greater quantity of peat and turf found. If there are countries deprived of rain, and other sources of fertility, they are made amends for it by fruitful inundations, like that of the Nile in Egypt. In mankind also, there is the most exact proportion between the sexes. The proportion between male and female is nearly equal. The number of males to that of females is generally 26 to 25. In civil society, talents and blessings are so admirably distributed, that, as each individual may be happy, according to his circumstances, so there is nothing, that is necessary, wanting to society in general. If the inclinations and dispositions of men were not so varied, if their tastes and tempers did not make them embrace different kinds of life, if there was not so much variety in their genius, their way of thinking, in their beauty, riches, and other outward circumstances, human society would soon become a melancholy desert. There is no rank of men who can do without others. Each country has its peculiar advantages; and if they were common, there would be neither connection nor commerce between men. In a word, on whatever side we cast our eyes under heaven, we every where find the most admirable harmony and proportion. Notwithstanding the infinite variety of creatures, and the continual interruption of many of the laws of nature, it appears, that, in this immense universe, all is perfect, all is planned.

and contrived for the general good, all is in the most regular and exact order. On whatever side we cast our eyes, we see nothing but the wisest and most delightful harmony. It shines on all sides. It embellishes every thing. Nothing is unconnected. Every thing combines to the same end. The whole is linked together with wonderful art.

Wise Author of nature! we should be unworthy to contemplate the magnificence and harmony of thy works, if we did not adore thee with the most profound admiration. Teach us, above all things, to feel and to adore that ineffable goodness, which has ordained every thing in the manner most beneficial to thy creatures.

A P R I L XXII.

THE INTEGRAL PARTS OF WATER.

WHEN we drink water, we think we enjoy a pure and simple element: We are mistaken; for the naturalists assure us, that each drop of water is a little world, where the four elements and the three kingdoms of nature unite. There is scarce any water which is not full of heterogeneous matter, very plainly visible when distilled, or filtered. However incredible this may appear, it has been proved beyond all doubt, by the most exact and certain experiments. Besides its ele-

mentary parts, the watery contains several earthy particles: Such, for example, as belong to the mineral kingdom, chalky ground, saltpetre, and different kinds of salts. It cannot be doubted, if we consider how many earthy particles the water must meet every where, (both in the air and on the ground) parts that it dissolves, or draws off and carries along with it. Water also contains inflammable or sulphureous parts, which shews themselves when it corrupts. Without these fiery particles it would become a solid and compact body: for as soon as all its heat is taken from it, it condenses, becomes heavy, and acquires the hardness of ice. Lastly, that water is also impregnated with air, will be easily acknowledged, if attention is paid to what happens when it begins to boil. Common water contains particles of earth, salts, fiery particles, and air; consequently it may be said with truth, that all the elements meet in a drop of water. But there are also plants and animals in it? It certainly contains the principles of vegetation, as all the plants draw the nourishing juices from water, and can only grow and thrive from thence. As to the animal kingdom, it is evidently distinguished from water. Without mentioning fish, and other aquatic animals, with which it is peopled, there is not a single drop of water without its inhabitants, as may be discovered by a microscope. It is also known how fast insects breed in stagnated water; the seeds of

which are undoubtedly concealed in the water; although outward circumstances hinder them sometimes from coming forth. All this is well calculated to make us reflect on the wisdom and goodness of the Creator. It is not by chance that water is composed of so many parts. It is true it would be one of the purest drinks, if it was a body absolutely simple; but, on the other hand, its medicinal qualities would be reduced almost to nothing. If we reflect on the manner in which water nourishes plants, it is easy to presume, that it communicates the little nourishment it contains, in the same way to men and animals. Water is not very nourishing in itself, but being very subtle, it dissolves the nutritive parts of food, serves them as a vehicle, and conveys them into the smallest vessels. It is consequently the most wholesome drink; that which men and animals can least dispense with; and its salutary virtues are experienced on occasions, even when all other drink would be hurtful to the health. With what wisdom God supplies our wants! He has prepared our food, our drink in the manner best suited to our nature, and best calculated to preserve health and life. He has communicated a beneficent power to the most ordinary and most necessary sustenance.

A P R I L XXIII.

THE PROPAGATION OF PLANTS.

IN general, vegetables spring from seed, and in most plants it is the flower or blossom which produces the seed and makes it fruitful. Almost all flowers are folded up in a bud, where they form themselves secretly, and are guarded by their root, and outside leaves. Then, when sap flows in abundance, particularly towards Spring, the blossoms grow large, the bud opens, the coat falls off, and the flower appears. At the outside some very small thin leaves are seen of different colours, which serve to defend the organs of fertility, and perhaps also to the forming of the nourishing juice, which enters into those parts. But it is, properly speaking, in the middle of the flower that the fruitful organs are found. There is a thread in it, or a little pillar called *pistil*, which rises pretty high, particularly in tulips. Round the pistil are the *stamina*, with heads at the top of them, containing a prolific dust of different colours. These stamina are properly the masculine organs, designed to make the seed fruitful, and the pistil is the female part of the generation. It is in a manner the womb which receives the prolific dust.

Vegetables propagate also by ingrafting. From a tender branch of a tree, when in sap, they

take an eye, or a beginning of a branch, with a part of the bark, and they graft it into another tree; that is to say, they insert this eye between the bark and the wood, after which they gently tie up the whole by rolling worsted two or three times round it. From that eye there comes a branch, which is of the same species as the tree from whence the eye was taken, though the tree into which it is inserted (and which is called *wild-stock*) should be quite another sort. Trees and other woody plants are also perpetuated by slips. From a willow, for example, they take a slip, that is to say a single stick or branch, and put it in the ground, after having cut off the little branches, that it may not in the beginning take too much sap. Roots soon shoot out of it in the places where it had beginnings of branches, and it becomes a tree.

Lastly, Vegetables also propagate by roots, but these must have eyes, or they will not shoot. Certain plants cast all around them trains or long strings, which have knots or eyes in them. The knots lengthen their fibres in the ground, and become so many new roots which may be separated from each other, to make so many more plants. The root even is a sort of eye, in which the plant is inclosed; and it has between its leaves little eyes, so that it may also be propagated by leaves, when the little eyes or roots remain.

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tened to them. What a train of causes must operate to produce vegetables, to preserve and propagate them. Supposing even, that the seed pre-existed, what art does it not require to open them to give growth to the plant, to preserve and continue the species? The earth must be a fruitful mother, in whose bosom plants may be placed and nourished conveniently. Water, which contributes also to the nourishment of plants, although in a less degree, must be composed of all those parts which are best calculated to make them shoot and grow. The sun must put all the elements in motion, and by its heat make the seed spring up, and ripen the fruit. It was necessary to form a just balance and proportion between the plants, in order that they should not multiply too fast, nor too slow. It was necessary, that the texture, the vessels, the fibres, and every part of the plant should be so disposed, that the sap, its nourishing juice should penetrate into it, circulate, digest, and prepare itself in such a manner, that the plant should receive the proper form, size, and strength. It was necessary to fix exactly what plants were to spring up of themselves, and what were to require the care and culture of men. The work of the generating and propagation of plants is therefore so complicated, it passes through so many working wheels, as makes it impossible to discover the long train of causes and effects which produce it.

In all this we acknowledge thy wisdom and goodness, O adorable Creator ! What other than thou couldst communicate to the elements the necessary virtue or power to perpetuate vegetables. It is thou who hast given to the sun a proper size and heat to act upon our earth, and to make it feel its happy effects. It is thou who hast created the constituent parts of which plants should be composed, and dispersed them in the air, the water, and the earth. It is thou who hast fixed the laws of motion ; who formed the atmosphere, and thus produced rain, fogs, and clouds. It is thou that quickeneth the seed, and giveth existence and growth to vegetables. Every year, by thy order, the air again produces its plants. Every Spring thou renewest the face of nature, and crownest the year with the blessings. Let the earth as well as the heavens, declare the glory of thy great name, now and for evermore.

A P R I L XXIV.

VARIETY OBSERVABLE IN THE FEATURES OF THE
FACE.

IT is a very evident proof of the adorable wisdom of God, that though the bodies of men are so like each other in essential parts, there is still so great a difference outwardly, that they can easily

be distinguished, without any mistake. Amongst so many millions of men, there are not two perfectly alike. Each person has something peculiar to himself, by which he may be known, particularly his face, voice, and language. The variety of countenances is so much the more wonderful, as the parts, which compose the human face are but few, and are all disposed on the same plan. If a blind chance produced every thing, the faces of men would be as like as eggs laid by the same hen, or balls melted in the same mould, or drops of water out of the same river. But, as that is not the case, we must acknowledge, on this occasion, as on every other, the infinite wisdom of the Creator, who, in varying the features of the human face so wonderfully, has manifestly had the happiness of mankind in view; for, if they resembled each other, so as not to be distinguished, it would cause continual inconveniences, mistakes, and frauds in society. We should never be sure of our lives, nor of the quiet possession of our property. Robbers and highwaymen would scarce run any risk of being discovered, if they could not be known again by the features of their face, or by their voice. Adultery, rapes, and other crimes, would go unpunished, because the guilty could not be discovered. We should be every moment exposed to the malice of the wicked and envious, as we could not guard against surprises, frauds, and misdemeanours. What

uncertainty would there be in the execution of the laws, in all sales, transfers, bargains, contracts! What confusion in trade! What frauds and subornments, in regard to witnesses! Lastly, uniformity, and perfect resemblance of faces, would destroy most of the charms of society, and considerably diminish the pleasure we find in conversation with one another. Variety of features, therefore, was to enter into God's plan of government. It is a striking proof of his tender mercy towards us; and it is evident, that not only the general construction of the body, but also the disposal of the several parts, has been done with the greatest wisdom. We behold every where variety joined with uniformity, from whence results the order, proportion, and beauty of the human body.

A P R I L XXV.

GOD'S UNIVERSAL CARE OF HIS CREATURES.

EVERY creature that lives in the air, in the water, or upon the earth, has its part in the care of a divine Providence, to which they owe their preservation. All the different beings live and grow, and multiply, each in its way; and according to its powers, fulfils the design for which it was placed upon earth. Animals void of reason are endowed with organs, strength, and sagacity,

suitable to their several destinations. Instinct warns them of what might be hurtful or dangerous; and enables them to seek, to distinguish, and to prepare the food and habitation proper for them. All this is absolutely involuntary. It is not the result of reflection or choice. They are irresistibly led on by a propensity, which a superior Power has given them for the preservation of their animal life. They find the food, and the retreats convenient for them: and no species of animals is destitute of what is necessary for its welfare and sustenance. Men are of a more excellent nature, but they are born in a more helpless state; and they require, beyond comparison, more assistance, than most other animals; their wants, their faculties, their desires are more numerous and greater; they are therefore distinguished by greater blessings, and more marked attentions of Providence. The earth, the air, and the water, the clouds, and the light of the celestial globes, contribute more abundantly, and in a more varied manner, towards the preservation of man. God dispenses his blessings to all intelligent beings with impartial love. He has placed the irrational creatures under their command, in order to make them serve for the support and convenience of man. It is worthy our particular attention, to observe, that every part of our globe which is inhabited, furnishes sufficient food for the creatures that live upon it. Admirable effects

of divine Providence! not only the fertile bosom of the earth; but also the vast plains of the air, and the depths of the sea, abound in food proper for the maintenance of the innumerable multitude of animals, that live and move in those elements. The treasures of divine goodness are equally inexhaustible. The provision that God has prepared for all his creatures, satisfies their wants, and can never be exhausted. The world does not decay. The sun returns with its accustomed light and heat: The fertility of the earth never diminishes: The seasons succeed regularly, and the earth never fails to pay its annual tribute of provision, for the preservation and support of its innumerable inhabitants. Whether we consider the continuance of the profusion, or the variety of the means of sustenance, which nature every where provides, we perceive throughout the traces of a beneficent and universal Providence. All that surrounds us, and serves to sustain and procure us the sweets and pleasures of life, are so many visible means, so many channels thro' which our invisible Benefactor continually dispenses his favours. The agents of nature, are the ministers which fulfil the designs of his providence. The world is his magazine, and we take out of it all that is necessary for use. It is to his goodness, it is to his tender mercies we are indebted for it,

“ Father of all beings, how extensive are thy mercies, how great, how inexpressible ! It is in thee we live, we move, and have our being; and thou sustaineest all things by thy mighty word : At thy command, the dew moistens and refreshes the thorn as well as the cedar. The lot of mortals is in thy hand : they are only happy through thee. Thou art their sovereign good ; and thy paternal cares are over all mankind. Thy impartial goodness causes the sun to rise upon the unrighteous, at the very moment even in which he sins. It is by thy command that the zephyr cools and refreshes us, that the rose embalms the air with its perfume ; that the most delicious fruits please our palates ; that the dew of heaven receives us. Thou proportionest thy gifts to the wants of thy creatures : Thou makest the righteous to feel the sweet and salutary effects of thy grace : Thou givest to the bee its nectar in the flowers ; to the worm a drop to quench its thirst ; to the world the rays of the sun. O thou who possessest sovereign felicity, and does not disdain to communicate happiness to the poorest insect, which could not exist a moment but by thy will : permit me to raise to thee a new hymn, and deign to accept my weak lays ? Penetrated with joy and gratitude, I will sing to thy name, magnify thy goodness, and pay thee due adoration, praise, and glory.”

A P R I L XXVI.

FLOWERS OF THE MONTH OF APRIL.

THE nearer we approach that charming month, which presents to us the country, the fields, and gardens, in full beauty, the more we see the wild and melancholy appearance of nature wear off. Each day brings forth some new creation, Each day nature draws nearer to perfection. Already, the grass begins to shoot, and the sheep run eagerly to feed. The corn begins to appear in the meadows, and the gardens become chearful and pleasant. Some flowers shew themselves here and there, and invite the florist to observe them. The sweet and modest Violet is one of the first productions of Spring. Its smell is so much the more agreeable, as we have been so long deprived of those delightful perfumes. The beautiful Hyacinth rises insensibly in the midst of its leaves, and shews in little flowers, which equally delight the sight and smell. The imperial Crown-flower casts around it a multitude of starry leaves. Its stalk also rises high, and its red and yellow blossom, shaped like a bell, and inclining towards the earth, forms a sort of crown, with a tuft of leaves, at the top. From the midst of its leaves the Auricula raises its flower, which imitates the richness of fatten and velvet. Its elegant form and sweet perfume make amends for its want of stature.

The Tulip comes out more slowly. It does not yet venture to open because the night air, or cold rains, might spoil the beauty of its colours. The Ranunculus, the Pink, and the Rose, do not blow, till milder days allow them to appear in full beauty. An attentive observer will find in this many reasons to admire the wisdom and goodness of his Creator. It is for very wise purposes that, at the return of Spring, each plant begins precisely in the time and the order prescribed to it, to open its leaves and blossoms, and to prepare every thing for the production of its fruits. There is a constant succession of vegetables from the beginning to the end of the year. Some are scarce visible, when others prepare to appear, and those are followed by several hundreds of others, which spring up each in its turn, and at the appointed time. Whilst the fruit of one plant is ripening, nature prompts another to propagate, that its fruit may be ready by the time the former has fulfilled its destination. Thus nature continually offers us an agreeable succession of flowers and fruit. She leaves no void; and, from one end of the year to the other, she watches over the successive generations of plants. But why has not our Creator given us the enjoyment of more plants at a time? The reason of it is evident. For how would it be, if all the flowers and fruit came at the same time? Would there not be seasons entirely without vegetables? Should we not

be deprived of the pleasure which those agreeable and progressive changes procure us, by preventing the disgust inseparable from a sameness? How many plants would perish if they were now exposed to the cold nights which are sometimes felt even in Spring? Would so many millions of animals and insects find subsistence, if all the plants blossomed and bore fruit at the same time? The beneficent Creator wished to provide for our maintenance and pleasure. Those two views could only be fulfilled by ordaining that nature should not produce all the vegetables at the same time, but successively and by degrees.

The Spring flowers which I am now admiring and contemplating, lead me naturally to think of the early season of life. Let lovely and sprightly youth consider and behold in these flowers the image of themselves. They also are placed in a fertile soil, and have a thousand charms for which they are loved and sought. Observe how soon the violet, the auricula and the hyacinth fade when the cruel north wind blows upon them. Think of the fate that threatens youth. Young man, be not vain of thy form. Do not venture to join too soon in the sports of thy companions, perhaps more robust than thou art. Be not vain of the flower of thy youth. Life is like unto grass. It flourishes as the flower of the field. "As soon as the wind goeth over it, it is gone, and the place thereof shall know it no more."

A P R I L XXVII.

THE RETURN OF THE BIRDS.

A SMALL number of birds pass the Winter with us. Whole families have gone out of our countries. Some sought milder climates than ours; others found warm retreats in caves, in hollow ground, and other such places. By degrees those birds return to us. The mild air in Spring awakens the swallow from its benumbed state; and a secret instinct brings back into their own countries, the bird who last Autumn undertook a long passage beyond the seas in search of subsistence, and the climate their constitution required. Their return is usually in this order, that those who went earliest return sooner. The air will be peopled again with winged songsters. The groves will resound with the harmonious notes of the nightingale. The swallow will return to the nest it had built the winter before. The stork will find again the very house it left at the beginning of the winter. In a few weeks the air will resound again with the songs of birds, and their return will fill the plains and the vallies with joy and gladness.

Two things particularly are remarkable in this emigration of birds. The first is, that they know exactly the time when they ought to return.

“ The stork in the heavens knoweth her appointed time, and the turtle, and the crane, and the swallow, observe the time of their coming.”

Undoubtedly the temperature of the air, in respect to heat and cold, and the natural inclination of those creatures to produce, and to bring up their young, are their greatest motives for changing their places: But it is, in other respects, a very extraordinary instinct, and in some degree inexplicable. It is no less wonderful, that those animals, void of reason, know so exactly the way they are to go, and how far it is. Without compass or guide, without provision, and in the most regular order, they undertake and finish a journey of sometimes more than 200 miles. Who then has taught them to follow a certain road in an element so inconstant as the air? Who informs them how far they have gone, and how far they have yet to go? Who is it that guides, feeds, and furnishes them with all necessaries for their journey? Do not those animals do what men themselves would be unable to do? To undertake journies of such a length, what experience, what assistance, what directions and preparations we require? Can we even, with the assistance of our reason, with a compass and geographical maps, follow so invariably the road over seas and mountains, as the birds do without any assistance? In whatever light we consider this, we may plainly discover a power

superior to the mere instinct of animals. We must acknowledge that an almighty power has impressed this instinct on the mind of the birds which they blindly follow.

A P R I L XXVIII.

USE OF FORESTS.

DURING the Winter which is just passed, we have very much felt the great advantage forests are to us. They have furnished us with a provision of wood, without which we could not have guarded ourselves against cold. But, it would be a mistake to suppose that this is their only, or even their chief use. For, if God had proposed no other end in creating them, why should those immense forests exist, which form an uninterrupted chain through whole provinces and kingdoms, and of which the smallest part is used for firing? It is therefore evident that the Creator, in forming those vast forests, proposed to himself to make them of use to mankind in other ways. May not the pleasure we have in the sight of trees be one of the purposes for which they were formed? They are one of the greatest beauties of nature, and it is always a fault in a country to have no woods or groves. Our impatience when

the leaves in Spring are long coming out, and the pleasure we feel when at last they appear, make us sensible how much they adorn and embellish nature. In reflecting on the use of woods, we ought not to forget the fruit which the numerous species of trees afford us. It is true, there are some trees, whose fruit appears to be of no use, at least, not of immediate use to man. But supposing even there were several sorts of fruit not absolutely of use to us, the trees which bear them would be still useful, if it were only for their beauty, their shade, and their timber: Besides, if we consider well, we shall find that those trees we call barren, are, notwithstanding, very useful. Does not their fruit feed an infinite number of insects, which serve as food for birds, designed to be for us as exquisite dainties? The acorns of all the different sorts of oak, the chesnuts, and many other berries, are the favourite food of pigs and wild boars: And have we not experienced in our days, that fruit, when properly prepared, may even serve as sustenance for man? They serve, besides, to preserve seed for the forests. How many sorts of animals there are, to which nature has allotted the woods for their food and habitation, and which would perish, if there were no forests! How many conveniencies, utensils, furniture, and medicines, we should be deprived of, without the wood, the bark and the roots of trees. Lastly, how insipid and dull would the

face of the earth be, if it was not for that charming variety of fields and woods, of plains and forests! It is precisely because forests are of so much use to mankind, that nature has taken upon itself the care of continuing them. If their generation and propagation had been left to the industry and watchfulness of man, the woods must have been at an end long ago. But the Creator reserved the forest trees to himself. He alone planted them. He alone keeps them up. It is he who disperses their little seeds over a whole extensive country. It is he who has given wings to most of those seeds, in order to be more easily carried by the wind, and spread over every place. He alone causes those vast bodies to shoot out, and rise so majestically in the air, that their tops seem to reach the very clouds. He alone plants them so firm, and preserves them for ages against every effort of the winds. He alone draws from his treasure sufficient rain and dew, to give them, every year, fresh verdure, to keep up a sort of immortality among them.

The goodness of God extends over the whole earth! Is there any country, any place, so remote, so wild, where traces of his wise and beneficent government may not be seen? Every where, in fields as well as forests, in barren deserts as in flowery plains, he has erected monuments of his goodness.

A P R I L XXIX.

PLEASURES WHICH THE CONTEMPLATION OF NATURE AFFORDS.

NATURE offers to all her children, with maternal love, the first, the most innocent, the least expensive, and most universal of all pleasures. It is that which our first parents enjoyed in paradise; and it is only the fallen state of man which makes him seek other pleasures. Men are apt to despise the daily blessings they enjoy, however excellent; and they only think of multiplying and varying their amusements. It is certain, however, that the pleasure I speak of is preferable to all others. It is almost impossible not to find charms in the contemplation of nature. And that it may be enjoyed without expence is manifest; the poor as well as the rich may indulge in it. But that is what lessens the value of it. We are so foolish as not to prize what others share with us; whilst, if we were reasonable, nothing should give more value to a blessing than the thought that it makes the happiness of our fellow-creatures as well as our own. In comparison of this pleasure, so noble and sensible, how trifling and vain are those far-fetched magnificent amusements which the rich obtain with so much trouble

and expence, which leave a certain void in the soul, always ending in ennui and disgust. Whereas nature, rich and beneficent, presents us continually with new objects. Pleasures which are only the work of our own imagination, are of short duration, and vanish like a dream, the charms and illusions of which are lost at the moment of waking. But the pleasures of reason and of the heart, those we enjoy in contemplating the works of God are solid and lasting, because they open to us an inexhaustible source of new delights. The starry sky, the earth enamelled with flowers, the melodious songs of the birds, the various landscapes and prospects, the one more delightful than the other, may continually furnish us with new subjects of satisfaction and joy. If we are insensible to these, it is certainly our own fault ; it is because we behold the works of nature with an inattentive and indifferent eye. The duty of a Christian consists in enjoying innocently all that surrounds him. He knows how to draw resources from every thing, and has the art of being happy under any circumstances.

A P R I L XXX.

ANIMALS ARE CAUSES FOR MAN TO GLORIFY GOD.

IT is not sufficient not to treat creatures improperly, we ought also to endeavour to make the best use possible of them. How then can that be but by making them serve to glorify God? This all creatures do, but particularly the animated beings. In every plant, tree, flower, or stone, the greatness and glory of the Creator are visibly imprinted, and one need only open one's eyes to see it; but it appears with still more lustre in the animal creation. Examine the construction of one only of those animated beings. What art, what beauty, what admirable wisdom we shall find in it; and how will these wonders multiply, if we think of the almost infinite number and astonishing variety of animals! From the elephant to the smallest worm, (which is only visible through a microscope) how many degrees! How many links which form one immense chain! What connection, what order, what relation between all those creatures! All is harmony! And if, at first sight, we think we discover any imperfection in certain things, we soon find it is only our ignorance, which has led us to form a wrong judgment. It is not necessary that every individual should make deep researches on this subject.

It is not necessary to be a learned naturalist. It is enough to attend to the most familiar and the best known things before our eyes. We see, for example, a multitude of animals, all admirably formed; who all live, and feel, and move, as we do; who are, like us, liable to hunger, thirst, and cold, and consequently require, as we do, that their wants should be supplied. To all those creatures God has given life; he preserves, he gives them what is necessary, and takes care of them, as a father of a family does of those that compose his household. Shall we not from thence conclude, that God has the goodness, the tenderness of a father? Shall we not also conclude, that we ought to love God, who is mercy itself? If the care of the Creator extends to animals, what will he not do for us? If he makes it his study to render the lives of those creatures happy and easy, what may we not expect from his beneficence? Let the cautious fearful man then blush at his anxieties; he, who as soon as he finds himself not in affluence, falls into apprehensions, and fears that God will let him perish for want. The beneficent Being who supplies the wants of so many animals, will he not furnish us with all that we require? Let us indulge another reflection upon the instinct of beasts, and take an occasion from it to admire and adore that great Being, who so wisely combines the means with the end. As the instinct of animals all tend

to their preservation, this appears most evidently in the love and care the beasts have for their young. Our Lord himself, to express the most tender parental cares, makes use of the image of a hen gathering her chickens under her wings. It is indeed a most affecting sight to behold the natural and strong affection the hen has for her young ones, and the constant care she takes of them. She never takes her eyes off them. She runs to their assistance at the approach of the least danger. She flies at the aggressor with courage. She hazards her own life to save that of her chickens. She calls them, and encourages them by her maternal voice. She spreads out her wings to receive and conceal them. She neglects all sort of convenience to herself; and, in the most uneasy posture, she still thinks of nothing but the safety and welfare of the objects of her affection. Who does not here acknowledge the hand of God? Without the maternal care of the hen; without that instinct so strong, and so superior to every thing, the chickens, the whole species would infallibly perish. Can it be said, that what the hen does for her young is done with understanding and reflection? that she judges, reasons, foresees, combines, and draws consequences? Certainly not. And though, at first sight, every thing really seems to proceed from the tenderness and understanding of the bird; yet we must acknowledge in it a superior hand,

which shews itself without our knowing in what manner it acts. I think these two examples are sufficient for the purpose. Therefore, without enlarging more upon it, I shall content myself with concluding in a few words, That it is the duty of man to seek in animals an occasion to glorify God; that it is an indispensable duty which ought to be sacred to him, and is equally agreeable and useful.



END OF VOLUME FIRST.

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